



KENAN®BP

FUNDAMENTALS

Product Version 11.7

BPFUNDO4

English

Release Date: January 2006

This document contains proprietary and confidential material of Comverse, Inc. Any unauthorized reproduction, use, or disclosure of this material, or any part thereof, is strictly prohibited. This document is solely for the use of Comverse, Inc. employees, and authorized Comverse, Inc. customers.

The material furnished in this document is believed to be accurate and reliable. However, no responsibility is assumed by Comverse, Inc. for the use of this material. Comverse, Inc. reserves the right to make changes to the material at any time and without notice.

All trademarks and registered trademarks are the property of their respective owners. This documentation is protected by United States copyright laws and is proprietary to Comverse. This documentation may not be reproduced in whole or in part without the written permission of Comverse.

Copyright © 2006 Comverse, Inc. All rights reserved.



Corporate Headquarters
100 Quannapowitt Parkway
Wakefield, MA 01880 USA
Tel: (781) 246-9000
Fax: (781) 224-8143

Warranty

Comverse, Inc. maintains a technical support department for the sole purpose of providing efficient and reliable service. All Comverse, Inc. products are warranted against defects in material and workmanship. The period of coverage and other warranty details are specified in the Comverse, Inc. terms and conditions warranty. In no event shall Comverse, Inc. be liable for incidental or consequential damages in connection with, or arising from, use of any Comverse, Inc. product.

While every attempt has been made to ensure that the information in this document is accurate and complete, some errors may exist. Comverse cannot accept responsibility for any kind of loss resulting from the use of this document.

Customer Training

Internet: <http://www.comverse.com/products/services-training.htm>
 Comverse Training
 Email: Training1@comverse.com

TABLE OF CONTENTS

1.	Orientation	1-1
	<i>Course Objectives</i>	1-2
	<i>Course Agenda</i>	1-3
	<i>Housekeeping</i>	1-4
	<i>Class Guidelines</i>	1-5
2.	The Basics	2-1
	<i>Section Objectives</i>	2-2
	<i>Focus for this Class</i>	2-3
2.1.	<i>Billing Concepts and Kenan BP</i>	2.1-1
	Module Objectives.....	2.1-2
	Business Requirements for a Billing System	2.1-3
	Exercise: So What Is Billing About?	2.1-4
	Role of Kenan BP	2.1-6
	Where Does Kenan BP Fit Into A Business Framework?	2.1-7
	Kenan BP Features	2.1-8
	Kenan BP High Level Design	2.1-9
	Account Life Cycle	2.1-10
	Kenan/BP Databases	2.1-11
	What Is Kenan FX?	2.1-12
	Kenan FX Business Framework.....	2.1-13
	Graphical User Interfaces.....	2.1-15
	Exercise: Review Features and Architecture	2.1-16
	Review Kenan BP Highlights	2.1-17
3.	Kenan BP Data Entities	3-1
	<i>Section Objectives</i>	3-2
	Five Steps to Implement a Billing System.....	3-3

Notes	3-4
3.1. Basic Data Entities	3.1-1
Module Objectives.....	3.1-2
Account.....	3.1-3
Service	3.1-4
How Do You Identify Accounts and Services?	3.1-5
Internal and External IDs	3.1-6
Exercise: Multiple External Ids to One Internal ID.....	3.1-7
Three Charge Domains.....	3.1-8
Exercise: Practice Applying Charge Domain	3.1-9
Recurring Charge (RC)	3.1-10
Non-Recurring Charge (NRC).....	3.1-11
Usage Charge	3.1-12
Exercise: Model Data Entities	3.1-13
Review Basic Data Entities.....	3.1-14
Notes	3.1-15
3.2. Using Customer Center	3.2-1
Module Objectives.....	3.2-2
What Is Customer Center?	3.2-3
Exercise – Login to Customer Center	3.2-4
Exercise – Create a One Step Connect Account	3.2-6
Find An Existing Account.....	3.2-10
More on Searching for Accounts.....	3.2-11
Review Customer Center	3.2-12
Notes	3.2-13
3.3. Assign Basic Data Entities in Customer Center.....	3.3-1
Module Objectives.....	3.3-2
Create an Account using the New Customer Acquisition Wizard	3.3-3
Explore The Account Summary Window.....	3.3-17
Exercise: Put it All Together	3.3-18
Review Customer Center	3.3-19
Notes	3.3-20
3.4. Promotional Data Entities	3.4-1
Module Objectives.....	3.4-2
Contract	3.4-3
Contract Details and Examples	3.4-4
Discount.....	3.4-5
Advanced Discount Options	3.4-7
Unit Credit (UC).....	3.4-8
Unit Credit Details and Examples	3.4-9
Exercise: Identify Data Entities.....	3.4-10

Package	3.4-11
Assign Package Levels.....	3.4-12
Example: Packages	3.4-13
Exercise: Model a Package – Task 1	3.4-14
Exercise: Model a Package – Task 2	3.4-15
Review Promotional Entities	3.4-16
Notes	3.4-17
3.5. <i>Assign Promotional Data Entities</i>	3.5-1
Module Objectives.....	3.5-2
Exercise: Create Accounts with Contracts	3.5-3
Exercise: Create Accounts with Packages.....	3.5-4
Steps: Add Elements to an Existing Account	3.5-5
Steps: Add a Package to an Existing Account.....	3.5-6
Review Entity Assigning.....	3.5-7
Notes	3.5-8
3.6. <i>Generate Invoices</i>	3.6-1
Module Objectives.....	3.6-2
Operations Center Functions.....	3.6-3
Invoice Process Flow.....	3.6-4
Steps: Open Operations Center	3.6-5
Steps: Run the BIP Process	3.6-6
Steps: Run the BIF Process	3.6-9
Exercise: Generate an Invoice.....	3.6-10
Review Invoice Generation.....	3.6-11
Review Kenan BP Entities	3.6-12
Notes	3.6-13
4. Configure and Test Kenan BP Data Entities	4-1
<i>Section Objectives</i>	4-2
4.1. <i>Use The Kenan BP Configurator</i>	4.1-1
Module Objectives.....	4.1-2
Configurator Overview	4.1-3
Steps: Launch Configurator	4.1-4
Steps: Use Configurator in Object Mode.....	4.1-5
Steps: Use Configurator in Table Mode	4.1-7
Kenan BP Reference Documents.....	4.1-9
Exercise: Explore Reference Documentation.....	4.1-10
Review Configurator and Reference Documentation	4.1-11
Notes	4.1-12
4.2. <i>Configure a Service Type</i>	4.2-1

Module Objectives.....	4.2-2
Service Type	4.2-3
Service Type Functionality.....	4.2-4
A World Without Service Types	4.2-5
Exercise: Service Type Practice.....	4.2-6
Exercise: Service Type Practice (continued)	4.2-7
Service Attributes as Eligibility Keys	4.2-8
Diagram Service Attributes as Eligibility Keys.....	4.2-9
Flow to Configure Service Type.....	4.2-10
Tables to Configure Service Types.....	4.2-11
Steps: Name Service Type and Create Attributes.....	4.2-12
Steps: Build and Test a Service Type	4.2-13
Exercise: Configure a Telephony Service Type.....	4.2-14
Exercise: Define Telephony Service Types	4.2-15
Review Service Type Configuration.....	4.2-16
Notes	4.2-17
4.3. <i>Configure a Recurring Charge</i>	4.3-1
Module Objectives.....	4.3-2
RC Review	4.3-3
Product Eligibility Keys.....	4.3-4
Introduction to Rating	4.3-5
Mandatory Product Rating Keys	4.3-6
Optional Product Rating Keys.....	4.3-7
Service Attributes as Rating Keys	4.3-8
Flow to Configure an RC.....	4.3-9
Tables to Configure RCs.....	4.3-10
Steps: Name and Define an RC	4.3-11
Steps: Rate and Test an RC.....	4.3-12
Exercise: Configure RCs for ABC Communications	4.3-13
Exercise: Plan Tables to Configure an RC.....	4.3-14
Review RC Configuration	4.3-15
Notes	4.3-16
4.4. <i>Configure a Non-Recurring Charge</i>	4.4-1
Module Objectives.....	4.4-2
Review NRCs	4.4-3
Flow To Configure NRCs.....	4.4-4
Tables to Configure NRCs	4.4-5
Steps: Name and Define an NRC	4.4-6
Steps: Rate and Test an NRC	4.4-7
Exercise: Configure Telephony NRCs for ABC	4.4-8
Exercise: Plan Tables to Configure NRCs	4.4-9
Review NRC Configuration.....	4.4-10

Notes	4.4-11
4.5. Configure a Usage Type	4.5-1
Module Objectives.....	4.5-2
Usage Type Review.....	4.5-3
Flow to Configure Usage Type.....	4.5-4
Tables to Configure Usage Types	4.5-6
Exercise: Examine Usage Types	4.5-7
Usage Processing.....	4.5-9
Steps: View Unbilled Usage.....	4.5-11
Steps: Run Usage Processes	4.5-12
Review Usage Configuration.....	4.5-14
Notes	4.5-15
4.6. Configure a Contract	4.6-1
Module Objectives.....	4.6-2
Contract Review	4.6-3
Flow to Configure a Contract	4.6-4
Tables to Configure a Contract.....	4.6-5
Steps: Name and Define a Contract.....	4.6-6
Steps: Test a Contract.....	4.6-7
Exercise: Configure and Test a Contract.....	4.6-8
Exercise: Plan Tables to Configure a Contract	4.6-9
Review Contract Configuration	4.6-10
Notes	4.6-11
4.7. Configure a Discount	4.7-1
Module Objectives.....	4.7-2
Discount Review.....	4.7-3
Flow to Configure Discounts	4.7-4
Tables to Configure a Discount	4.7-6
Steps: Name and Define the Discount.....	4.7-7
Steps: Create and Test the Discount	4.7-8
Exercise: Configure and Test a Discount	4.7-10
Exercise : Plan Tables to Configure a Discount.....	4.7-11
Review Discount Configuration.....	4.7-12
Notes	4.7-13
4.8. Configure a Package	4.8-1
Module Objectives.....	4.8-2
Package Review	4.8-3
Kenan BP Entities in Packages	4.8-4
Flow to Configure a Component	4.8-5
Flow to Configure a Package.....	4.8-7
Tables to Configure a Component	4.8-8

Steps: Configure and Test a Package.....	4.8-10
Exercise: Plan and Configure an ABC Package	4.8-13
Exercise: Plan Tables to Configure ABC's Package.....	4.8-14
Review Package Configuration.....	4.8-16
Review Configuration Section.....	4.8-17
Notes	4.8-18
5. Additional Billing and Financial System Functions 5-1	
<i>Section Objectives</i>	<i>5-2</i>
5.1. Hierarchies	5.1-1
Module Objectives.....	5.1-2
Account Hierarchy	5.1-3
Billed and Unbilled Accounts.....	5.1-4
Redirect Charges	5.1-5
Diagram an Account Hierarchy	5.1-6
Steps: Create a Hierarchy with Charge Redirections.....	5.1-7
Exercise: Set Up a Hierarchy with Charge Redirections.....	5.1-9
5.2. Adjustments and Payments	5.2-1
Module Objectives.....	5.2-2
Guidelines for Adjustments.....	5.2-3
Steps: Add an Adjustment	5.2-4
Exercise: Add an Adjustment.....	5.2-5
Guidelines for Manual Payments	5.2-6
Steps: Add a Manual Payment.....	5.2-7
Exercise: Add a Manual Payment.....	5.2-8
Review CSR Tasks	5.2-9
Notes	5.2-10
6. Kenan BP Background Processes 6-1	
<i>Section Objectives</i>	<i>6-2</i>
6.1. Background Processes	6.1-1
Module Objectives.....	6.1-2
Usage Processes.....	6.1-3
Communications Process	6.1-4
Usage Accumulator Process	6.1-5
Usage Validation and Rating.....	6.1-6
Usage Tables	6.1-7
Exercise: Examine Usage Process Steps	6.1-8
Invoice Processors	6.1-9
Billing Invoice Processor	6.1-10

Billing Invoice Formatter.....	6.1-11
Billing Invoice Dispatcher.....	6.1-12
Exercise: Explore Invoice Processes.....	6.1-13
Review Payment Methods	6.1-14
Processes to Allocate Payments via Check (LBX).....	6.1-15
Processes to Request Payments via Credit Card (CPM).....	6.1-16
Processes to Allocate Payments via Credit Card	6.1-17
Processes to Request Payments via EFT (Direct Debit)	6.1-18
Processes to Allocate Payments via EFT	6.1-19
Journals	6.1-20
Exercise: Map Background Processes.....	6.1-21
Review Background Processes	6.1-22
Notes	6.1-23

Section

1

1. ORIENTATION

COURSE OBJECTIVES

By the end of this course, you will be able to:

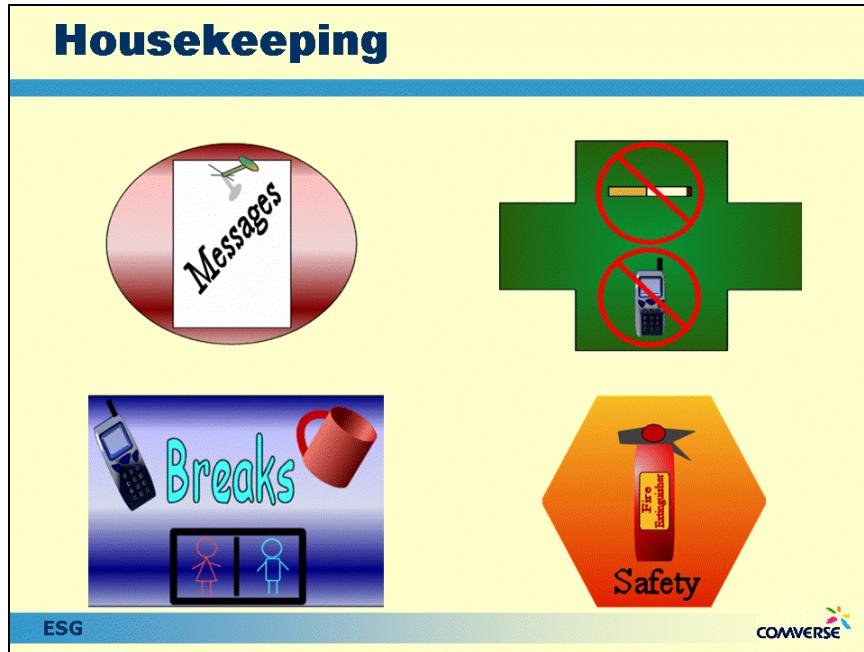
- Translate basic business requirements into Kenan/BP functionality.
 - Use Configurator, Customer Center, and Operations Center to configure, provision, and test data entities.
 - Identify the steps involved in many Kenan/BP background processes.

Note: Kenan BP software was previously known as Arbor BP. You may still see references to “Arbor” in documentation and on screens, particularly in older versions of the software and documentation.

COURSE AGENDA

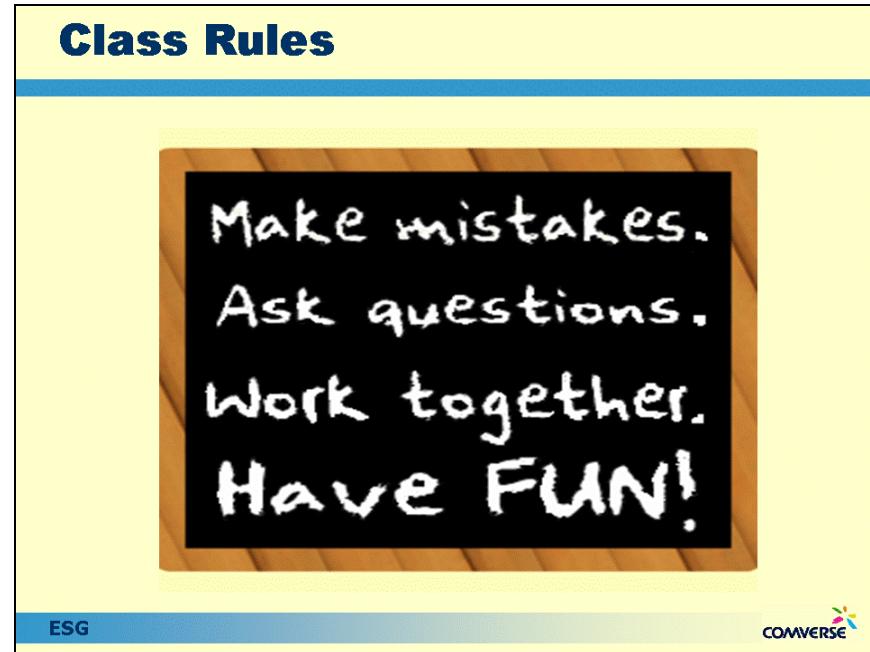
- Day 1** Introduction to Kenan FX and Kenan BP
 Provision Basic Data Entities
- Day 2** Provision Promotional Data Entities
 Generate Invoices
 Configure Service Types
- Day 3** Configure Basic Data Entities
- Day 4** Configure Promotional Data Entities
- Day 5** Additional Financial and Billing System Functions
 Background Processes
 Final Case Study and Wrap Up

HOUSEKEEPING



- | | |
|-----------------------------|--|
| Fire | In case of fire, your trainer will be your fire marshal. Always follow their instructions - they will lead you to the nearest fire exit and safety. |
| Breaks | Please make use of the kitchen facilities provided, and help yourself to beverages. Always leave the kitchen clean. |
| Smoking | Smoking is not permitted at any time or in any location within the building. The instructor will direct you to areas outside where smoking is allowed. |
| Mobile Phones/Pagers | Switch your mobile phone/pager to silent mode during training. |
| Start Times | The class will start promptly each day. Please arrive early so we start on time. |

CLASS GUIDELINES



NOTES

Section

2

2. THE BASICS

Section Goal

This section orients you to Kenan BP functionality and sets the stage for learning how to configure the software to meet a customer's needs.

You will find out about Kenan BP features and the database architecture that supports the software functions.

SECTION OBJECTIVES

By the end of this section, you will be able to:

- Describe the basic Kenan BP architecture, including the three main databases and their primary functions
- Describe where Kenan BP fits into the Kenan FX model
- Given a customer requirement:
 - List at least 2 ways that Kenan BP could solve the billing need
 - List at least 2 ways that Kenan BP could solve the customer care need
- List tools to view/edit Kenan BP data and describe purpose of each interface

FOCUS FOR THIS CLASS

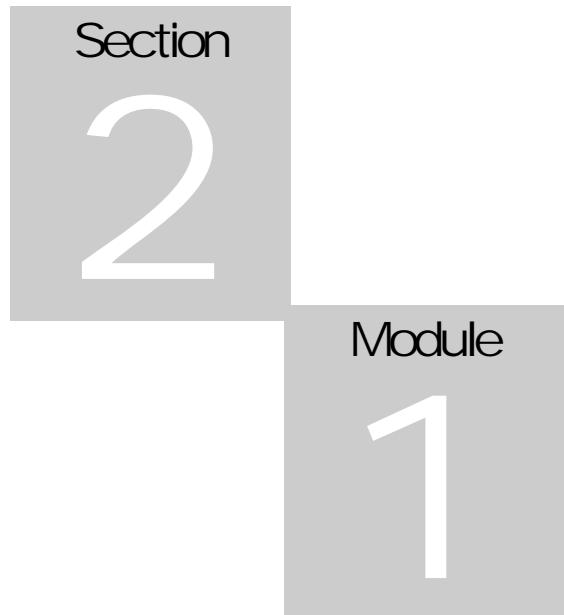
Focus for this Class

- Presents Kenan BP version 11.7 core functionality
- Does not cover site-specific data models or customization:
 - ✓ We use generic, common examples
 - ✓ Your site configuration may vary
 - ✓ Differences are typically addressed within your project, not in class

ESG



NOTES



2.1. BILLING CONCEPTS AND KENAN BP

MODULE OBJECTIVES

By the end of this module, you should be able to:

- Describe basic billing concepts and relate them to Kenan BP
- Name the three Kenan databases and explain what they do
- List the different functions that can be performed in Kenan BP

BUSINESS REQUIREMENTS FOR A BILLING SYSTEM

Business Requirements for a Billing System

- **What do customers expect from a billing system?**
- **What do service providers need from a billing system?**
- **How do you prepare to implement the Kenan BP billing system?**

ESG



Business flow	To help set the stage for this class, think about the business requirements that are fulfilled by a billing system. Think about this from the point of view of everyone who's impacted by generating, designing, and receiving a bill.
Customer requirements	What do customers expect from a billing system? List the most basic business requirements from a customer's point-of-view.
Service provider requirements	What do service providers need from a billing system to meet the customer's requirements? What other requirements do service providers consider?
Implementation preparation	How do you prepare to implement the Kenan BP billing system now that you have an idea of the business requirements?

EXERCISE: SO WHAT IS BILLING ABOUT?

Examine the bill on the following page to gather ideas about what a billing system should do and should be.

Work with a partner to brainstorm about the purpose of a billing system and use the table to record your thoughts.

What information must a billing system contain?	What functions must a billing system perform?	What are challenges in implementing a billing system?

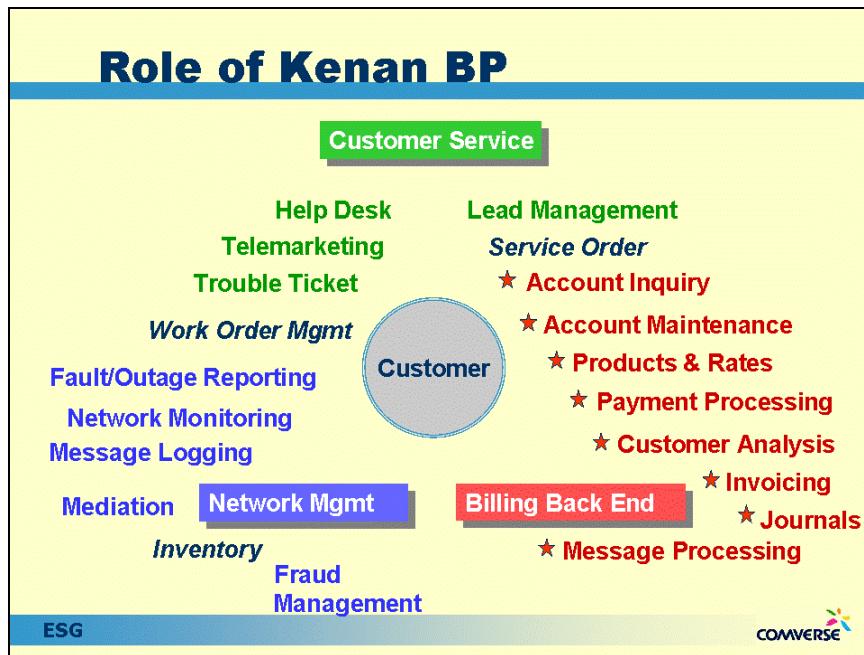
Review your answers with your instructor. Put a check (✓) next to each topic that you will cover this week.

EXERCISE: SAMPLE BILL

Convergence Communication, Inc.	Account No	617-555-1212-H1C4	
Invoice No. 104	Type	'Full-Use Program' - Residential	
	Billing Period	Feb 21 - Mar 20, 1999	
	Billing Address:	J. Q. Publique 1 Main Street Cambridge, MA 02142	
<i>New Service!</i>			
Starting this month, CCI offers online payment! When you use a home computer to pay your bill electronically, CCI will give you 15% off your total bill. Your Online Services account can be initialized in the CyberBank area of the CCI Online Forum. Call 1-800-555-2345 for Customer Support.			
Communications Services			
	calls	rate/minute	minutes
Metro Calling Plan	30	\$0.080	327
Phone Home Long Distance	15	\$0.100	63
Calls outside of plan	2	\$0.190	14
On The Road Mobile Plan	20	\$0.380	60
Communications Charges:			\$93.86
Entertainment			
Basic Cable	\$7.56		
Metro Plus Package	\$6.22		
Video On Demand			
Apocalypse Now	\$1.99		
Thelma & Louise	\$1.99		
Terminator	\$1.99		
Entertainment Charges:			\$19.75
<p style="text-align: center;">▼ ----- DETACH HERE ----- ▼</p> Account Summary Please Send Payment To:			
Communications Services	\$93.86		
Entertainment	\$19.75		
Taxes			
Federal	\$2.54		
State and local	\$4.22		
Total	\$123.37		
Bundle Discount (10%)	\$12.34		
Amount Due	\$111.03		

As you review the bill, consider characteristics of *convergent telecom services*. List ideas that describe billing for convergent services.

ROLE OF KENAN BP



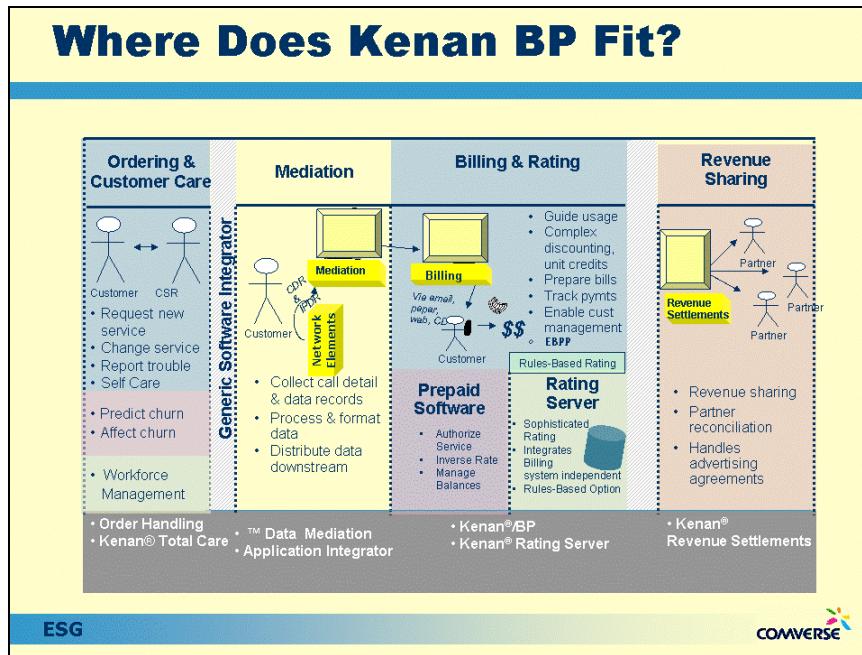
Where Does Kenan BP Fit?

All three major areas provide a total billing and customer care interface. Note that billing comprises 1/3 of this solution.

Items marked by a star (*) are handled by Kenan BP.

Items in black italics can be handled by the optional orders services modules.

WHERE DOES KENAN BP FIT INTO A BUSINESS FRAMEWORK?



The diagram above shows a process flow using the Kenan FX framework, including some optional modules.

Kenan BP, the billing engine, can be found in the diagram under the Billing & Rating category.

KENAN BP FEATURES

Kenan BP Features

- Offers flexible, configurable billing engine
- Uses database tables with Oracle or Sybase
- Supports rapid introduction of new products and services
- Used to maintain all phases of account life cycle

ESG



**Flexible,
configurable
billing engine**

Kenan/BP can be configured to specific client needs wherever there is a product that can be measured by time, units, or distance.

**Uses database
tables with
Oracle or Sybase**

Kenan/BP uses easily edited data tables. You can customize features without writing additional program code.

**Supports rapid
introduction of
new products &
services**

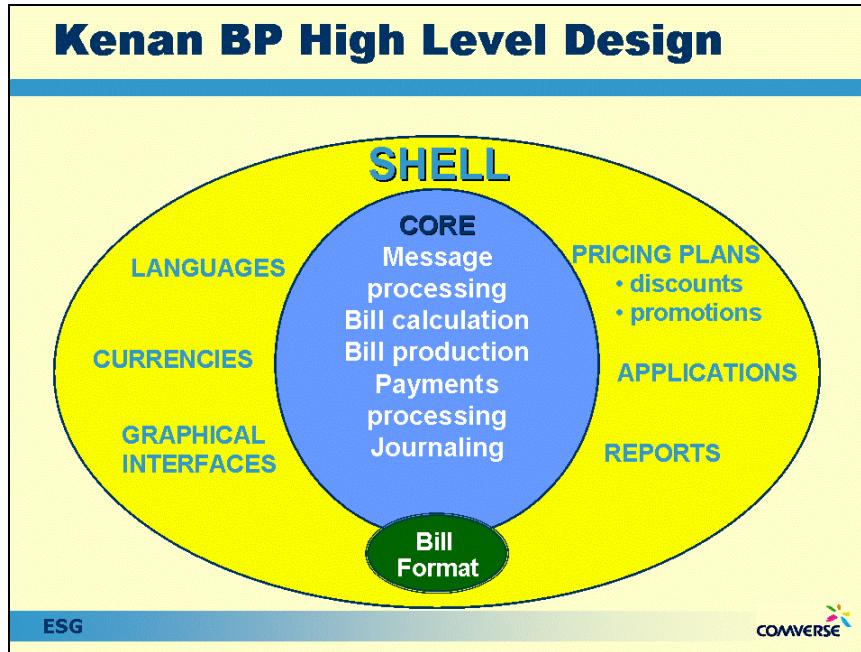
New products can be quickly implemented into the billing engine because it's easy to configure new data on services, promotions, etc.

**Used for all
aspects of
account
maintenance**

Such as:

- configuring services and products to sell
- maintaining customer information
- gathering data about usage
- producing bills and create invoices
- accepting payments

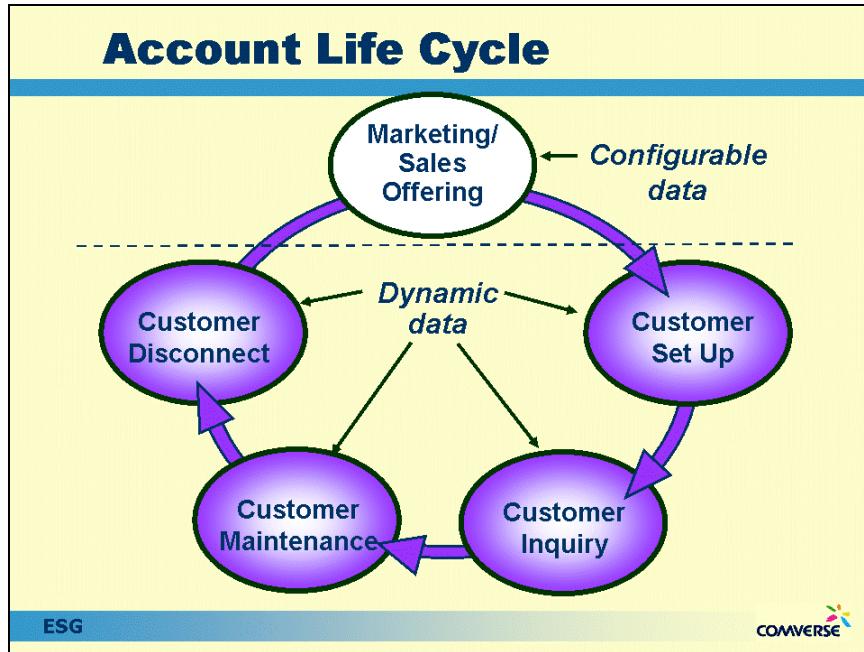
KENAN BP HIGH LEVEL DESIGN



Kenan BP software designers separated program functions to support a set of standard features while allowing service providers to configure other features to meet their needs.

Core Functions	Kenan BP source code controls items in the core. Core items tend to be generic and flexible enough to meet a wide variety of business needs. This allows all Kenan BP customers to benefit equally from new developments and enhancements. Core items are included in every Kenan BP implementation.
Shell Functions	The Kenan BP customer has full control over configuration of items in the shell. This includes pricing, promotions, languages, and so on (according to the site's implementation). Professional Services does not provide an Entity Relation-ship Diagram (ERD) to those who purchase Kenan BP.
Bill Format	Bill formatting functions straddle the line between the core and the shell. The format is produced as part of the core. However, Kenan BP customers can alter the format after deployment.

ACCOUNT LIFE CYCLE



Relating the Account Life Cycle to Kenan BP Data

Kenan BP uses two types of data:

- Configurable
- Dynamic

Configurable Data

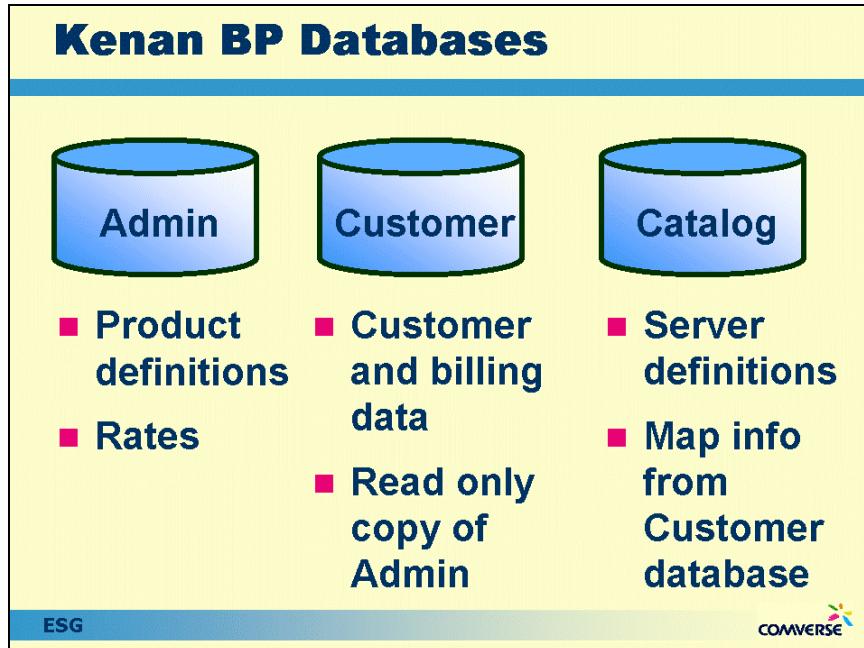
The Marketing/Sales portion are stored as Configurable data. This holds all configurable information, such as all of the client's offerings, applicable charges, packages, and promotions.

You can populate configurable data through Structured Query Language (SQL) or with a Kenan BP interface (discussed later).

Dynamic Data

All steps in the account life cycle that begin with the word "Customer" are stored as Dynamic data. These are populated by the Customer Service Representative (CSR).

KENAN/BP DATABASES



Admin database with configurable tables

Contains configurable tables holding all definitions for products, services, rates, and so on that your company offers. When your company offers a new service, it is configured in the Admin database.

Find Admin table descriptions in the Database Reference (Administration Tables, Vol. 1 & 2).

Customer database(s) with dynamic tables

Contain dynamic tables with all customer account info (payment methods and addresses, services ordered, bill status, and so on). Contains all invoices and rated usage records. Updated when CSRs create/edit customer accounts.

Customer database(s) may reside on the same server as the Admin and/or Catalog database. If on a separate server, the Customer database must contain a read-only copy of the Admin data.

Catalog database

Contains server definitions and a map of account and service identifiers from the Customer database(s). The Catalog facilitates CSR searches and the Kenan BP processes that need to find accounts.

Find Customer and Catalog table descriptions in Database Reference (Catalog and Customer Tables).

WHAT IS KENAN FX?

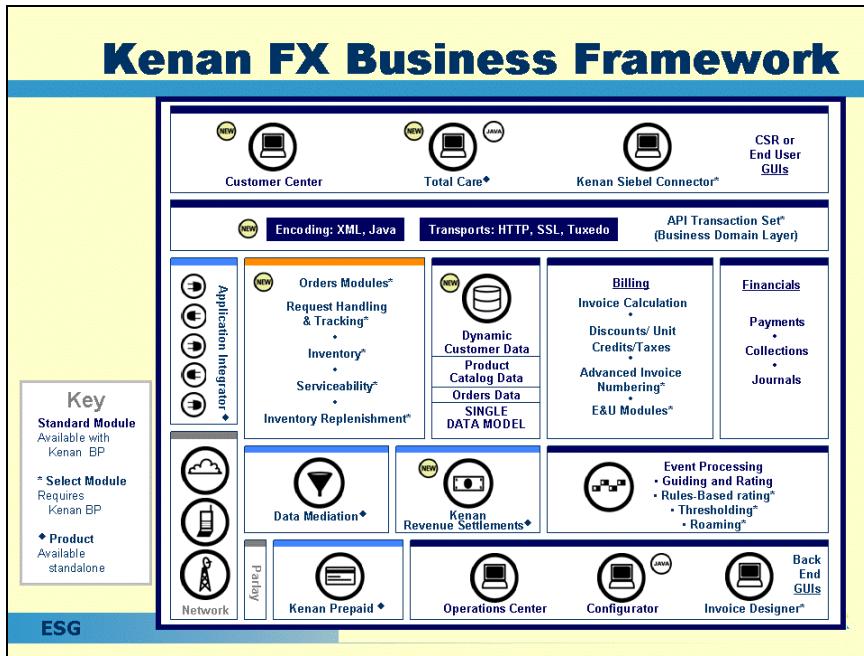
What Is Kenan FX?

- Kenan FX is a business framework that provides end-to-end billing and order management
- Products and modules share a common “look and feel”
- Modular and customizable configuration
- Kenan BP is the billing engine for the FX framework

ESG



KENAN FX BUSINESS FRAMEWORK



Standard Modules

Provided with Kenan/BP:

- Billing Invoice Calculation, Discounts/Unit Credits/Taxes
- Event Processing Guiding and Rating
- Payments, Collections, Journals
- GUIs: Customer Center, Operations Center, Configurator

Select Modules

These optional modules are shown above with an asterisk (*):

- Orders Modules: Request Handling and Tracking, Serviceability, Inventory, Inventory Replenishment
- Invoice Designer, Advanced Invoice Numbering
- Others: Rules-Based Rating, Thresholding, Roaming, E&U Modules

Continued on next page

KENAN FX BUSINESS FRAMEWORK (CONTINUED)

Standalone Products Products that are available for purchase separately from Kenan BP.
Marked above with a diamond (^).

- Total Care
- Application Integrator
- Data Mediation
- Kenan Revenue Settlements
- Kenan Prepaid

Note: Not all available products are shown above (e.g., GUI Designer).

GRAPHICAL USER INTERFACES

Graphical User Interfaces

- Customer Center for CSRs to create and maintain customer accounts
- Configurator and Advanced Configurator to construct the client's offerings in the database
- Operations Center to run processes and generate invoices
- Customer Care Interfaces to troubleshoot:
 - ✓ MIU -- Message Processing Investigation Unit
 - ✓ CCIU -- Credit Card Investigation Unit
 - ✓ LIU-- Lockbox Investigation Unit
 - ✓ EIU -- Electronic Funds Investigation Unit

ESG 

Graphical User Interfaces (GUIs)

The GUIs listed are all part of Core FX.

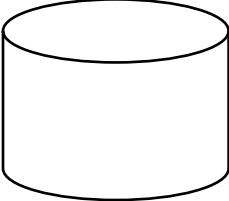
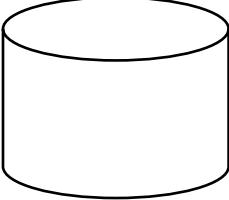
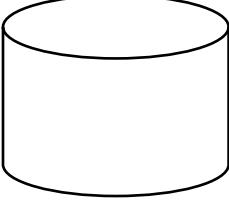
In class we will use the first three: Customer Center, Configurator, and Operations Center.

EXERCISE: REVIEW FEATURES AND ARCHITECTURE

True or False

1. Kenan BP handles account maintenance tasks. _____
2. All customer information resides in the configurable tables. _____
3. The Kenan BP customer must put all databases on one server. _____

With one or more partners, discuss and complete the chart.

Database	Contents	How is the database populated?
		
		
		

REVIEW KENAN BP HIGHLIGHTS

Review Kenan BP Highlights

- Handles billing activities for all phases of an account lifecycle
- Has configurable and dynamic data
- Holds three table groupings/databases: Customer, Admin, and Catalog
- Uses Configurator to view/edit tables, Customer Center for dynamic entry, and Operations Center to run processes and generate invoices

ESG



For More Information

Consult the *Common Configuration Tasks*, *System Administrator Guide*, and *Technical Reference* documents for full details.

Section

3

3. KENAN BP DATA ENTITIES

SECTION OBJECTIVES

By the end of this section, you will be able to:

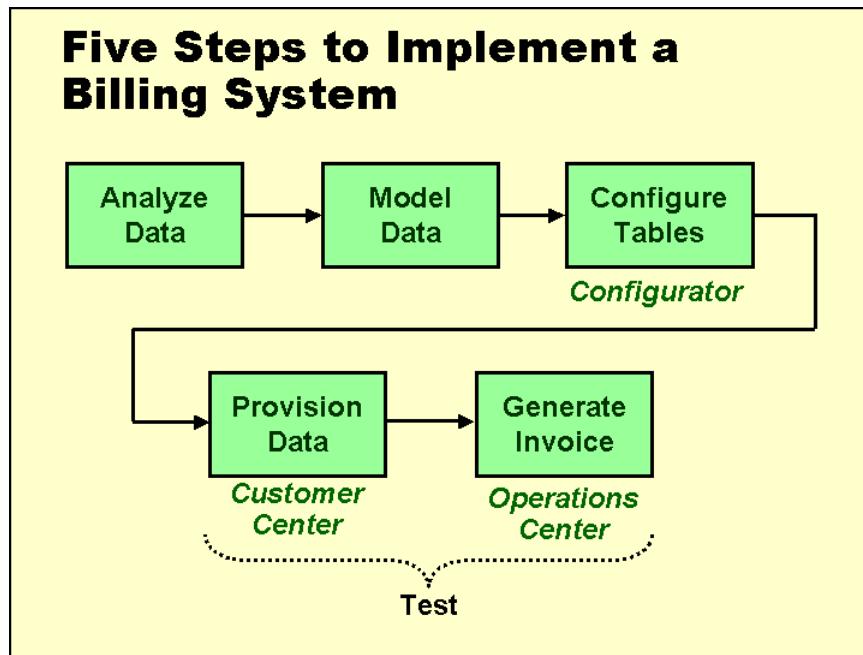
- List five steps to implement a billing system
- Given realistic business requirements:
 - Identify Kenan BP data entities
 - Model a Kenan BP account structure
 - Model a Kenan BP package
- Use Customer Center to create accounts and associate services with customers
- Use Operations Center via a web browser to generate invoices

Here is the focus for each module in this section:

1. Discuss basic Kenan BP data entities
2. Use the Customer Center interface
3. Discuss promotional Kenan BP data entities
4. Assign promotional data entities
5. Generate invoices

You will have an opportunity for hands-on practice with each topic.

FIVE STEPS TO IMPLEMENT A BILLING SYSTEM



Steps to implement a billing system

You need a process to follow when implementing a billing system. The five-step implementation process we follow in this class is modeled above.

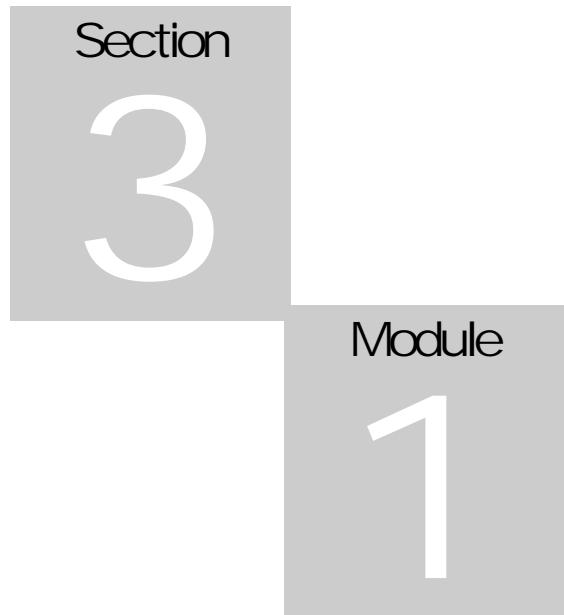
1. **Analyze Data** -- Identify your company's billing requirements and translate the requirements into Kenan BP terms.
2. **Model Data** -- Create a data model of your business requirements. The data model acts as a road map to minimize errors as you configure.
3. **Configure Data** -- Configure or build your data model using the Kenan BP Configurator interface.
4. **Assign Data** -- Test your configuration by assigning the data entities you have created using the Customer Center interface. Verify that the entities are available and that restrictions and ratings take effect.
5. **Generate Invoice** -- Test your configuration by generating an invoice to verify that assigned charges, discounts, and unit credits are applied to the bill.

How we will use the steps

This section follows the five steps to teach you how to implement your own business requirements. We provide existing data requirements to teach you how to model data. Initially, we will use preconfigured data entities and learn how to assign and generate invoices for these entities.

Once you understand the implementation process and data entities used in modeling, this section will teach how to configure these entities.

NOTES



3.1. BASIC DATA ENTITIES

MODULE OBJECTIVES

By the end of this module, you will be able to:

- Define the basic Kenan BP data entities
- Given a business example, identify the data entities
- Given a set of customer requirements, create a data model for Kenan BP

Before implementing Kenan BP you need to understand the data entities used to model data and configure tables. This module introduces five Kenan BP data entities:

- Accounts
- Services
- Products (Recurring charges)
- Charges (Non-recurring charges)
- Usage

You will use the “ABC Communications Case Study” throughout this section. The case study gives you a chance to apply your knowledge and analyze business requirements.

ACCOUNT

Account

- Billable entity
- Defined by several attributes
- Stored in the CMF table
- Can be linked through a hierarchy



ESG
CONVERSE

Account = Billable Entity	<p>One customer may have only one account or a customer may have several accounts and receive several invoices. This point may help you remember that an account is NOT the same as a customer.</p>						
Accounts are defined by Attributes	<p>An attribute is a characteristic or quality that helps define an entity. All entities in Kenan BP have defining attributes. Info in the account entity includes data that determines how, where, and when an account receives an invoice. Some account attributes are:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">- Name</td><td style="width: 50%;">- Tax information</td></tr> <tr> <td>- Service identifiers</td><td>- Payment method</td></tr> <tr> <td>- Billing and physical addresses</td><td>- Active date</td></tr> </table>	- Name	- Tax information	- Service identifiers	- Payment method	- Billing and physical addresses	- Active date
- Name	- Tax information						
- Service identifiers	- Payment method						
- Billing and physical addresses	- Active date						
Account information is stored in CMF Table	<p>Account information is stored in the Customer Master File (CMF) table. This table is dynamic, updated when the CSR creates/edits accounts, and when Kenan BP billing processes are run.</p>						
Account hierarchy supports linking	<p>Accounts may be placed in a hierarchy to reflect a corporate structure. This allows customers to re-route charges to a main account, for example.</p>						

SERVICE

Service

- Represents a network service delivery point
- Defined by several attributes
- Stored in the SERVICE table
- Allows all services on one bill

```

graph TD
    Account((Account)) --- Service1[Service]
    Account --- Service2[Service]
  
```

HELPFUL HINT:
Service is also known as "Subscription", "Equipment", or "Service Instance"

ESG COMVERSE

**Service =
Network
Delivery
Point**

A service is a unique assignment to a network **service type**. For example, the telephone number is the unique service associated with the service type, Dial Tone. The phone number represents the access point onto the phone network. So a service is not a product charged to the account, but a *mechanism* through which you can deliver service and associate charges.

Other names for service are *subscription*, *equipment*, and *service instance*.

**Services are
defined by
Attributes**

Some attributes are: an identifier, network service type (telephone, cable, internet access, utility, etc.), active date, and service address.

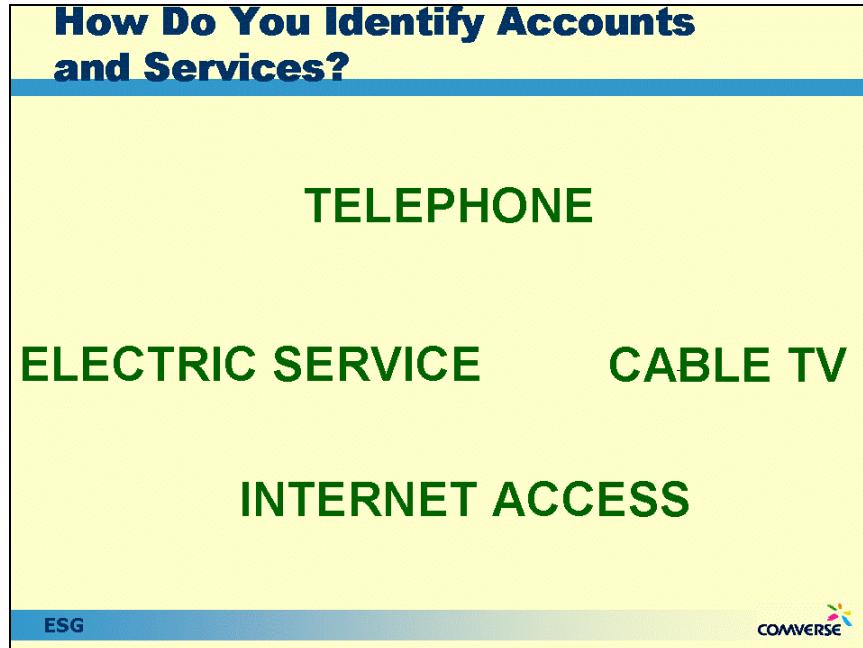
**Service
information
is stored in
SERVICE**

SERVICE contains fields such as parent account number, subscription number, customer name and address, etc. Like the CMF table, SERVICE is dynamic (not configurable) and is updated by CSR actions and Kenan BP processes.

**Supports all
services on
one bill**

One account can have many services, which allows convergent billing. This means that all services owned by an account will appear together on the same invoice. Note that customers are not billed for services, but for products.

How Do You IDENTIFY ACCOUNTS AND SERVICES?



Consider the examples of accounts and services. Think about how service providers might want to track these by using identifiers.

Brainstorm the ways that you might set up and maintain a customer. For example, look at phone service and consider:

- What facts about the account would you want to maintain?

- Can there be more than one phone number that terminates on a single phone? Give examples.

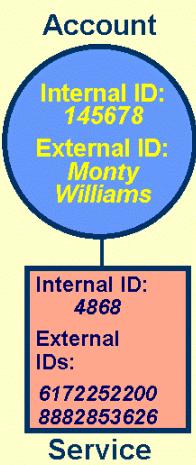
- How would you tell the difference between all these numbers?

- Would you want to know what attributes the numbers have in common? How would you achieve this?

INTERNAL AND EXTERNAL IDs

Internal and External IDs

- Accounts and services have internal and external identifiers:
 - ✓ Internal IDs are always unique
 - ✓ External IDs may be unique or not
- Can assign multiple external IDs to one internal ID



Account

Internal ID: 145678
External ID: Monty Williams

Service

Internal ID: 4868
External IDs:
6172252200
8882853626

ESG
COMVERSE

- Internal Ids** Kenan BP automatically assigns an internal ID to uniquely identify each account or service. An internal ID is always numeric. This allows Kenan BP to easily track the uniqueness of its internal IDs, and speeds up performance by using integer fields instead of character fields. (Searching is faster when fields are numeric with only 10 choices versus alpha-numeric with 256 choices.)
- External IDs** Kenan BP also assigns an external ID to new accounts or service. The same external ID can be assigned to more than one account, while the internal ID is always unique.
- Kenan BP automatically assigns an external ID to new services, also. The Kenan customer associates a **Service Type** with the subscription to describe the kind of service such as telephone, cable, Internet and so on.

*Each subscription is uniquely identified by a combination
Service External ID + Service Type*

Kenan BP customers can create External IDs using any alphanumeric characters. For example, an Internet service might be identified by an external ID of MyUser@provider.com.

EXERCISE: MULTIPLE EXTERNAL IDs TO ONE INTERNAL ID

A Kenan BP customer can assign more than one external ID to a single internal ID. For example, the service provider can direct multiple telephone numbers to the same internal ID.

This is helpful for a consumer who wants to pay for toll-free and direct calls via the same internal ID, or when there is a change in area codes.

The example illustrates an example for a telephony service. All calls to all external IDs will be routed to the same internal ID:

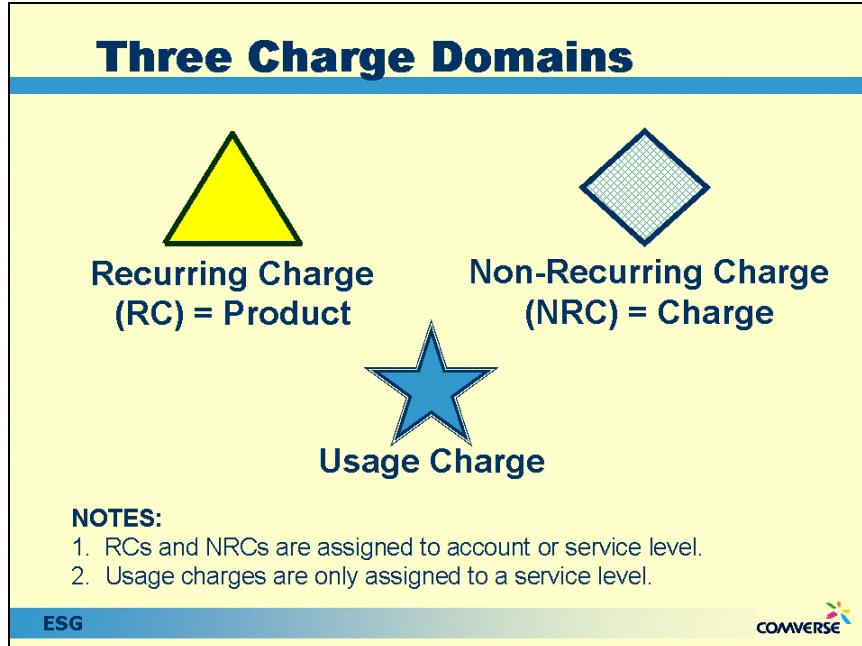
External ID	Internal ID
6172252200 (regular voice calls)	
8882853626 (toll free calls)	4868
6172252205 (calls for the fax machine)	

One More Example:

External IDs are useful when a company imports legacy data from multiple billing systems into a single installation of Kenan BP. In the legacy systems, there may be overlap in account numbers.

When bringing these accounts into Kenan BP, each account can keep its legacy account number as an external ID and still be assigned a unique internal ID.

THREE CHARGE DOMAINS



Charge domains

Charge domains are the only way that a charge can appear on an invoice. The three charge domains are:

- **Recurring Charge (RC)/Product** - cyclical fee that appears on an invoice regardless of customer use
- **Non-Recurring Charge (NRC)/Charge** - one-time fee
- **Usage Event** - charge that occurs only as a result of user activity over a network

RC and NRC charges are configured to be attached to either the account or service/subscription level.

Account Level Charge Domain

Account level charges are independent of a particular service. For example, if a maintenance contract is not dependent on the number of services an account owns, it would likely be an account-level charge.

Service Level Charge Domain

Service-level charges are dependent upon a specific service. A charge for cable access relates to a cable service. A charge for Dial Tone relates to a telephony service.

Note: Usage can only be attached to the service level.

EXERCISE: PRACTICE APPLYING CHARGE DOMAIN

Task 1 – Match a Service to a Charge Domain

In this exercise, you will match each service with the appropriate charge domain. (It may be easier to think of this from a consumer's point of view. Read the service description and decide whether it is charged just once as a Charge/NRC, on a regular basis as a Product/RC, or per event as usage.)

With a partner, discuss each of the charges listed below. Label each charge as RC, NRC, or Usage.

1. _____ 01/01/02, Long Distance call to Cincinnati OH, 5132322222, 10 min
2. _____ Premier Internet Club Membership Dues
3. _____ Premier Internet Club Membership Initiation Fee
4. _____ Call Waiting
5. _____ Voice Mail
6. _____ 12/07/02, Telephone jack installation
7. _____ 03/05/02, Cable line repair
8. _____ Cable box rental
9. _____ Cable installation
10. _____ 03/07/02, Pay Per View movie, Titanic, 8:30 pm
11. _____ 01/09/02, Phone disconnection penalty, \$50.00

Task 2 – Identify Charge Domains for a Business Example

In this exercise, you will begin to identify basic Kenan BP data entities in a business requirement. Use the course handout to answer the questions. Identify RCs for the ABC Communications cable offering.

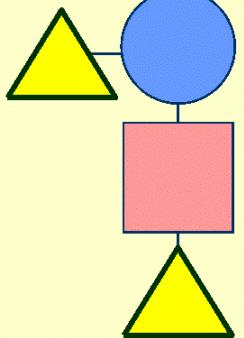
Identify NRCs for the ABC Communications cable offering.

Identify usage charges for the ABC Communications cable offering.

RECURRING CHARGE (RC)

Recurring Charge (RC) / Product

- **Billed on a cyclical basis**
- **Must have a rate; can have multiple rates**
- **Assigned at account or service level**
- **Can be restricted to specific networks**
- **Can validate usage**



HELPFUL HINT:
“RC” = “Product”,
“Feature”, or “Element”

ESG
CONVERSE

Recurring Charge (RC) is Billed on a Cyclical Basis

An RC occurs every bill cycle regardless of customer activity. RCs may occur monthly, quarterly, yearly or on another cycle. An example of an RC is Dial Tone. Accounts with a telephone subscription are billed every cycle for Dial Tone whether or not the customer uses it.

Other names for recurring charges = **product, feature, or element**.

RCs Can Have Multiple Rates

Every RC has at least one rate, although this could = 0. Rates can be based on account-level or service/subscription-level attributes.

RCs Can be Restricted to Specific Networks

RCs can be *restricted* to specific networks. You could limit a cable RC such as “Premium Movies” so it can be assigned only to customers with cable services/subscriptions.

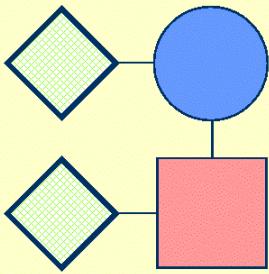
RCs Validate Usage During Usage Guiding

The RC is used to validate a usage record to be sure it is appropriate for the subscription. For example, customers without Internet service should not be billed an RC for an Internet access line.

NON-RECURRING CHARGE (NRC)

Non-Recurring Charge (NRC) / Charge

- **One-time fee:**
 - ✓ Debit
 - ✓ Credit
- **A rate is optional; can have multiple rates**
- **Assigned to account or service level**
- **Can be restricted to specific networks**
- **Can be paid in installments**



ESG COMVERSE

Non-Recurring Charge (NRC) is a one-time Debit or Credit

A **debit NRC** is charged to the customer for services such as service installation, a set up fee, or an equipment purchase.

A **credit NRC** is a way to return money to the customer. For example, a CSR could give a \$35 credit in response to a complaint about a service outage.

NRCs Can Have Multiple Rates

An NRC may have one or more rates. Rates can change depending on customer or service attributes, such as rate class. A rate can be set to zero (for instance, by not configuring a rate at all). Also, rates may be overridden by the CSR.

NRCs Are Assigned at Account or Subscription Level

If the NRC is not dependent upon the type of service a customer has, such as finance charges and set-up fees, the NRC may be account-level. An NRC for a telephone install charge, however, is dependent upon a telephony service and would be a service/subscription-level NRC.

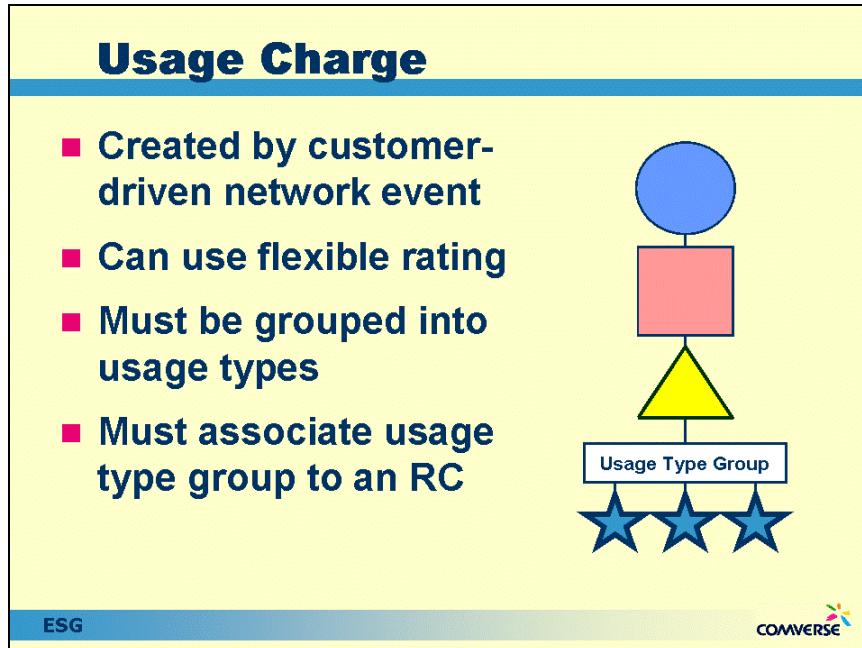
NRCs Can be Restricted to Specific Networks

NRCs may be *restricted* to specific attributes of networks. This way, a cable installation charge could only be assigned to a customer with a cable service.

NRCs Can Be Paid in Installments

Some NRCs can be substantial, such as equipment purchase. For this reason, the carrier can offer a way to pay an NRC in installments.

USAGE CHARGE

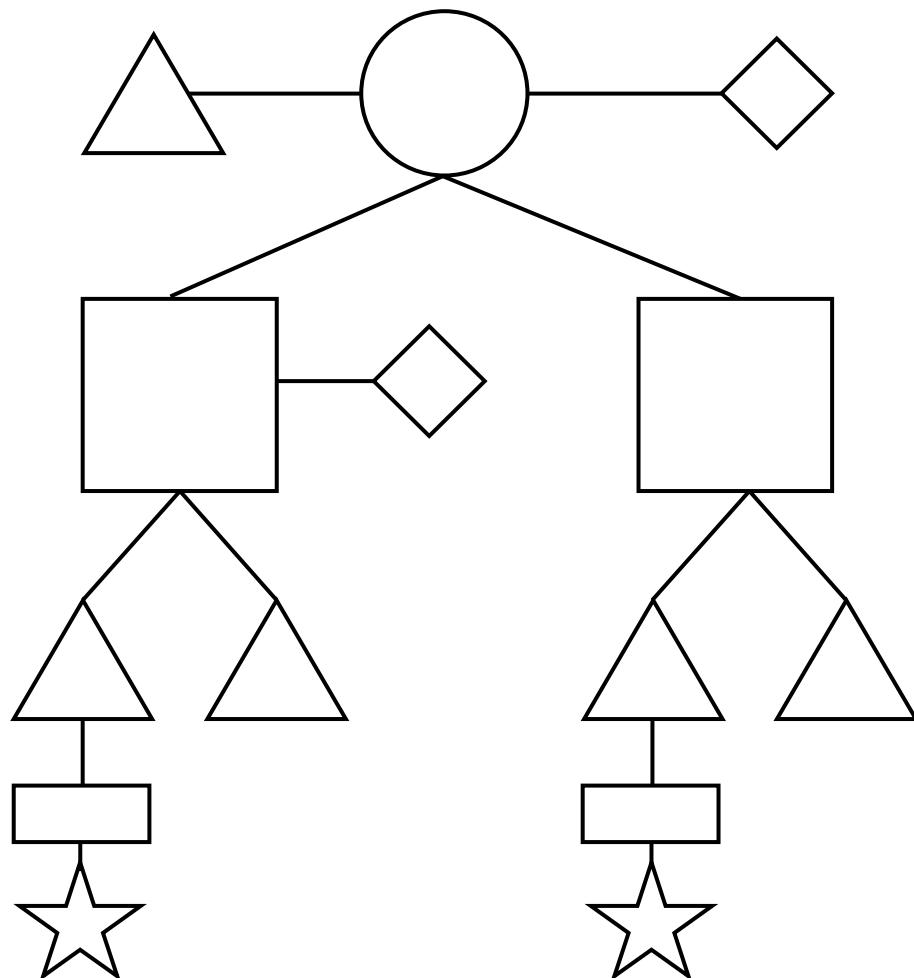


Customer-driven Network Event	Usage only occurs when initiated by the customer. Examples are phone calls, web site visits, or Pay-Per-View movies. Unlike RCs and NRCs, which are assigned to customers by CSRs, usage is collected outside of Kenan BP.
Usage Rates are Flexible	Usage rating is extremely flexible. Usage can be rated based on attributes such as time of day, where you're calling to or from, or duration. For example, the rate of a long distance call may differ based on when the call was made, number dialed, and how long the call lasted.
Usage Types and Usage Type Groups	You must organize usage types into usage type groups (UTGs). For example, the UTG Telephony Usage could contain usage types such as Long Distance Call, Local Call, Collect Call and Directory Assistance. Usage type groups are associated to service/subscription level RCs. This allows validation of a usage event by an RC. Associating UTGs to service/subscription level RCs guarantees that usage types will be guided to the appropriate services. A single usage type may be in many UTGs. However, a single RC can only have one UTG associated to it.

EXERCISE: MODEL DATA ENTITIES

In the model provided, place the charges listed into the appropriate location. Use the numbers to place the appropriate item into the model.

- | | |
|------------------------------|---------------------------------|
| 1 Premium Movie Channel | 8 Pay-Per-View Movie |
| 2 Voice Mail | 9 Cable Usage Type Group |
| 3 Telephone Usage Type Group | 10 Finance Charge |
| 4 Mr. John Smith | 11 Telephone Service 3035674567 |
| 5 Maintenance Agreement | 12 Basic Cable |
| 6 Cable Service – XC5670 | 13 Telephone Installation |
| 7 Dial Tone | 14 Long Distance Call |



REVIEW BASIC DATA ENTITIES

Review Basic Data Entities

- **Account:**
 - ✓ Billable entity that receives an invoice
 - ✓ Has unique Internal ID + External ID(s)
- **Service:**
 - ✓ Network access point
 - ✓ Has unique Internal ID + External ID(s)
- **Charge Domains:**
 - ✓ RC = Product = cyclic
 - ✓ NRC = Charge = one time
 - ✓ Usage = customer-driven network event

ESG

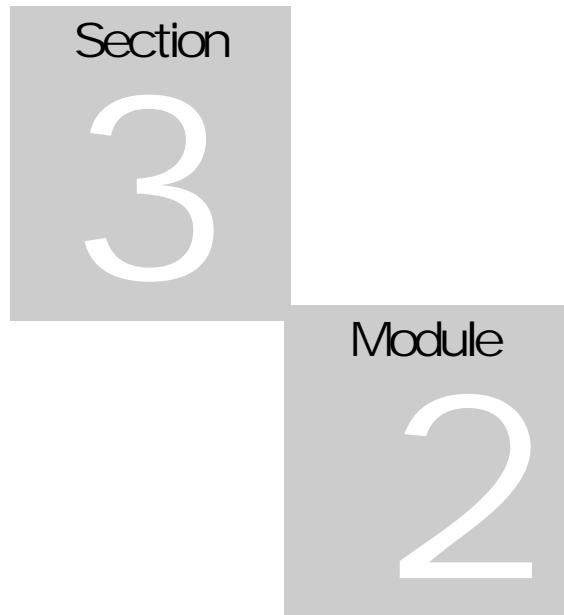

Review Be sure you can list the five Kenan BP data entities:

- Accounts
- Services/Subscriptions
- Products/RCs
- Charges/NRCs
- Usage

Also Known As... One aspect of Kenan BP that can be confusing to newcomers is the number of similar terms. Remember:

- A *service* is a single instance of a network service point:
A service is also called a *subscription*, *equipment*, or a *service instance*.
To uniquely identify a service requires a combination of Service (Instance) ID + Service Type.
- A *product* is also called an *RC*, *a feature*, or an *element*.

You will see the terms *RC*, *NRC*, and *subscription* more frequently when performing configuration in Configurator than the equivalent terms *product*, *charge*, and *service*, which you will see when testing your configurations in Customer Center.



3.2. USING CUSTOMER CENTER

MODULE OBJECTIVES

By the end of this module, you should be able to:

- Login to Customer Center.
- Create a simple account containing a package offering from the One Step Connect window.
- Locate accounts in Customer Center.

WHAT IS CUSTOMER CENTER?

What is Customer Center?

- Part of the Kenan FX framework of customer care and billing products
- Interface used to create accounts, add services and assign all other data entities. Also used to perform maintenance activities on these entities.
- Interface can be customized to meet screen and workflow needs

ESG



Part of the Kenan FX framework	In addition to providing a CSR-friendly interface to the Kenan BP application, Customer Center is also used for the many optional modules: Inventory, RH&T (orders workflow), Invoice Designer, and more. Because Customer Center is CSR-based, other interfaces are used for: <ul style="list-style-type: none"> ■ Processing batch payments ■ Completing supervisor approvals ■ Other “back office” processes not generally performed by CSRs
Customer Center functions	Customer Center is used for: <ul style="list-style-type: none"> ■ Customer acquisition and tracking ■ Assigning ■ Account maintenance
Interface can be customized	GUI Designer is an optional product used to adapt the interface to fit the client’s business processes.

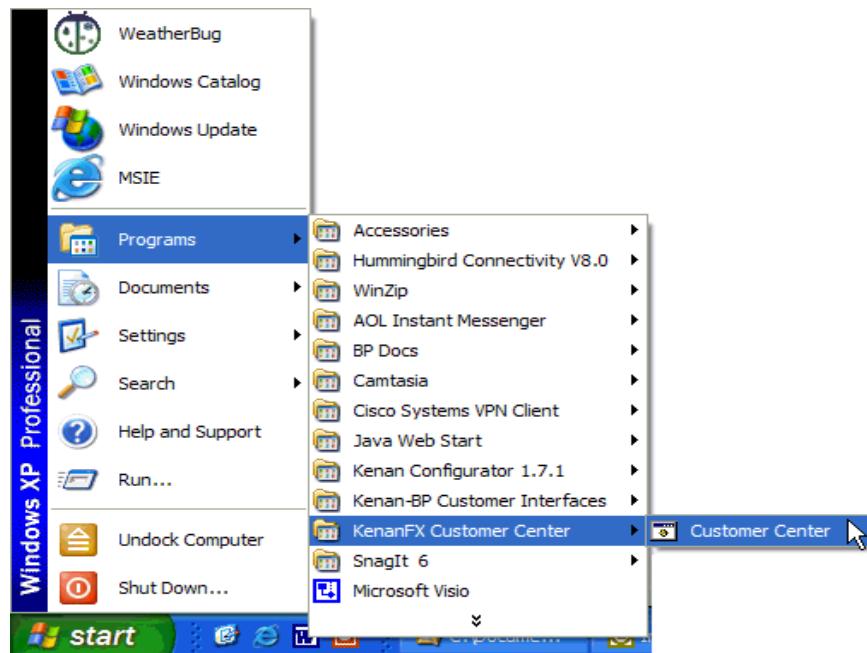
EXERCISE – LOGIN TO CUSTOMER CENTER



Hands-on Exercise: You will learn how to access Customer Center.

Step	Action	Details/Results
------	--------	-----------------

1. Select Start > Programs > Kenan FX Launcher > FXLauncher.bat.



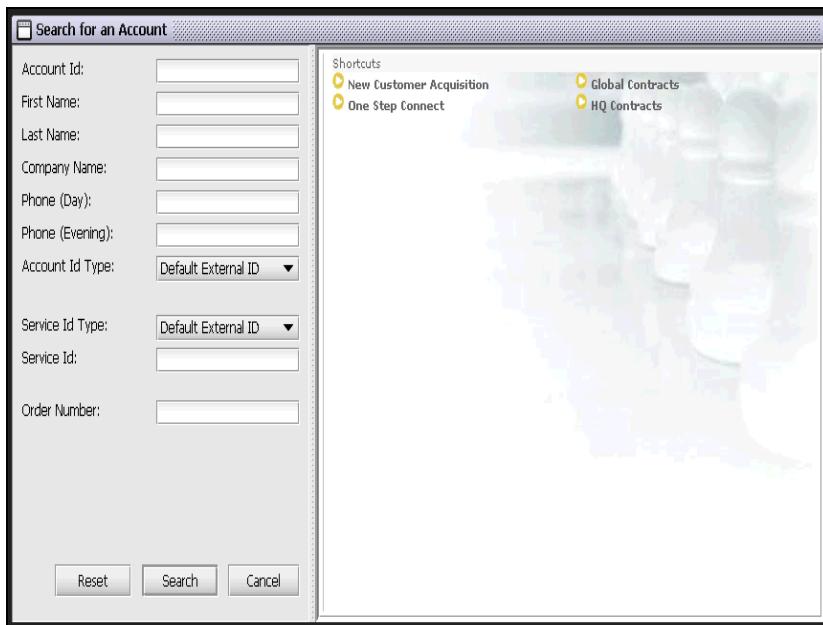
Continued on next page

EXERCISE – LOGIN TO CUSTOMER CENTER (CONTINUED)

Step	Action	Details/Results
2.	Enter the Login Name and Password provided by your instructor.	The Launcher window appears.



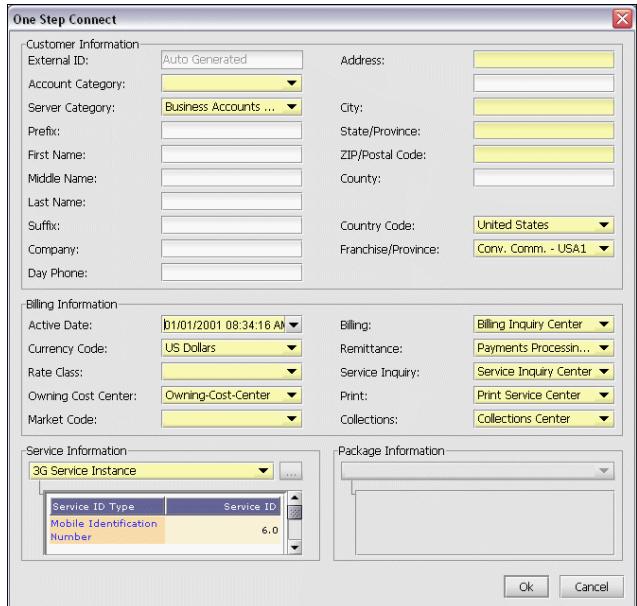
3. Select **Customer Center**. The **Search for an Account** window appears.



EXERCISE – CREATE A ONE STEP CONNECT ACCOUNT



Hands-on Exercise: You will create a simple account with a service and a package.

Step	Action	Details/Results
1.	From the right pane of the Search for an Account window, click One Step Connect .	The One Step Connect window appears.
		
2.	Select Residential from the Account Category field.	Later we will also create Business accounts.
3.	Complete the name, phone, and address fields, using information provided by the instructor.	For Residential accounts, only the last name is required.
4.	Under Billing Information , change the Active Date to 1/1/01 .	In order to generate invoices during class, we need to backdate this account.
5.	Ensure that appropriate options are selected for the five fields in the bottom right area of the window.	These selections determine where customer sends payments, inquires about billing issues, etc.

Continued on Next Page

EXERCISE – CREATE A ONE STEP CONNECT ACCOUNT (CONTINUED)

Step	Action	Details/Results
6.	From the Service Information drop-down, select Telephone Line .	The Service is the customer's access point onto a specific network.
7.	Click the button with 3 dots (...) in the Service Information area	The Service External Id window appears.
8.	Click Ok .	The One Step Connect window is redisplayed.
9.	From the Package Information drop-down, select Basic Telephone Package .	A Package is a promotional tool that allows the CSR to quickly associate a variety of related charges.
10.	From the Components list in the Package Information area, select LD Calling Plan Component .	Some components are required (such as Basic Telephone Component), and some are optional.

The screenshot shows the 'One Step Connect' dialog box. The 'Customer Information' section includes fields for External ID (Auto Generated), Account Category (Residential), Server Category (Business Accounts ...), Prefix, First Name, Middle Name, Last Name, Suffix, Company, and Day Phone. The 'Billing Information' section includes Active Date (03/29/2006 08:44:23 AM), Currency Code (US Dollars), Rate Class (Residential Rate Class), Owning Cost Center (Owning-Cost-Center), Market Code (Standard Market Code), Billing (Billing Inquiry Center), Remittance (Payments Processin...), Service Inquiry (Service Inquiry Center), Print (Print Service Center), and Collections (Collections Center). The 'Service Information' section shows a dropdown set to Telephone Line, with a table below it showing Service ID Type (Default External ID: 7.0, Telephone Number: 3035551212). The 'Package Information' section shows a dropdown set to Broadband Telephony Package, with a table below it showing component checkboxes: Basic Broadband Phone Component (unchecked), Convenience Component (unchecked), Long Distance Component (checked), and Voice Mail Component (unchecked). At the bottom are Ok and Cancel buttons.

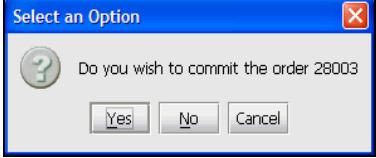
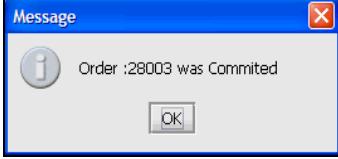
Continued on Next Page

EXERCISE – CREATE A ONE STEP CONNECT ACCOUNT (CONTINUED)

Step	Action	Details/Results
11.	Click Ok.	The Account Summary window appears.

Continued on Next Page

EXERCISE: CREATE A ONE-STEP CONNECT ACCOUNT, CONTINUED

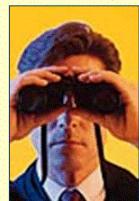
Step	Action	Details/Results
12.	To finish this account creation, click the End Session button.	A dialog appears: Do you wish to commit the order?
		 A screenshot of a Windows-style dialog box titled "Select an Option". It contains a question mark icon and the text "Do you wish to commit the order 28003". At the bottom are three buttons: "Yes", "No", and "Cancel".
13.	Click Yes .	A confirmation dialog appears.
		 A screenshot of a Windows-style dialog box titled "Message". It contains an information icon and the text "Order :28003 was Committed". At the bottom is an "OK" button.
14.	Click Ok .	The Search for an Account window appears.

FIND AN EXISTING ACCOUNT

Find an Existing Account

■ Search for information in a field:

<ul style="list-style-type: none"> ✓ Account ID ✓ First Name ✓ Last Name ✓ Company Name ✓ Phone (Day) 	<ul style="list-style-type: none"> ✓ Phone (Evening) ✓ Account ID Type ✓ Service ID Type ✓ Service ID ✓ Order Number
--	---



ESG
CONVERSE

Search for Information in a Field

From the **Search for Account** window, Customer Center returns accounts that match the information entered in the following search fields:

- Account ID
- Last Name
- First Name
- Company Name
- Phone (Day)
- Phone (Evening)
- Service ID
- Order Number

Or you can make a choice from one of the following two drop-downs, and Customer Center will return accounts that contain the same information:

- Account ID Type
- Service ID Type

For example, if you select **Telephone Number** from the **Service Id Type** field, you will see a list of all accounts that have a Service ID of the type Telephone Number.

MORE ON SEARCHING FOR ACCOUNTS

More on Searching for Accounts

- Use a wildcard in your search

 - ✓ The wildcard in Kenan BP is %
 - ✓ Example:
800% in a Phone field returns all phone numbers beginning with “800”

- Open the account

 - ✓ Account Summary
 - ✓ Services
 - ✓ Orders
 - ✓ Billing Inquiry

ESG


Use a wildcard in your search

A wildcard character holds a place for one or more unknown characters in the search. Use wildcard characters when you have only partial information or you want to retrieve a whole category of accounts that have something in common.

Customer Center uses a percent sign (%) as a wildcard character.

To find all customers whose last name *ends* with “ion” (Station or Champion, for example), type _%ion in the **Last Name** field.



Tip: Searches are not case-sensitive. For example, if you search on “smith” Customer Center will return any of the following: smith, Smith, SMITH.

Open the account

After performing the search, click on the account number to open the **Account Summary** for an account.

Or click on the **Actions** link and make a selection from the list to go directly to specific information about the account:

1. **Billing Inquiry**
2. **Services**
3. **Orders**

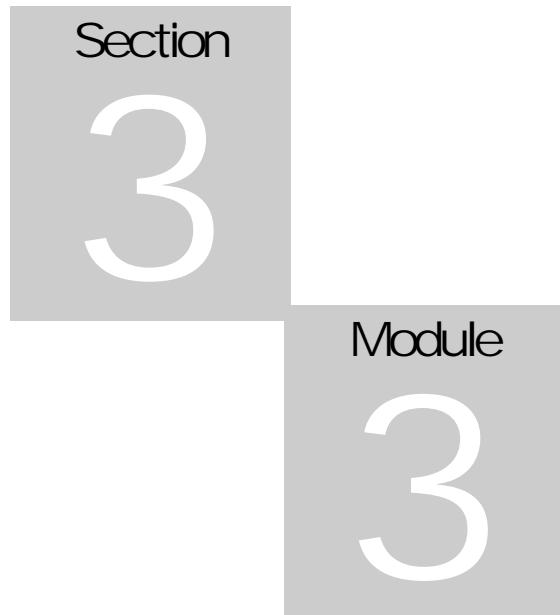
REVIEW CUSTOMER CENTER

Review Customer Center

- Create an account with One Step Connect
- Add a package
- Find accounts in Customer Center

ESG 

For More Information Full details are covered in the User Guide document.



3.3. ASSIGN BASIC DATA ENTITIES IN CUSTOMER CENTER

MODULE OBJECTIVES

By the end of this module, you should be able to:

- Create a new account containing a service, product, and charges using the New Customer Acquisition Wizard.

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD



Hands-on Exercise: It is likely that you will use the New Customer Acquisition Wizard to create most new accounts. The wizard affords more flexibility than One Step Connect.

In this exercise, we will create a new account with a service-level product (Basic Cable) and an account-level charge (Finance Charge).

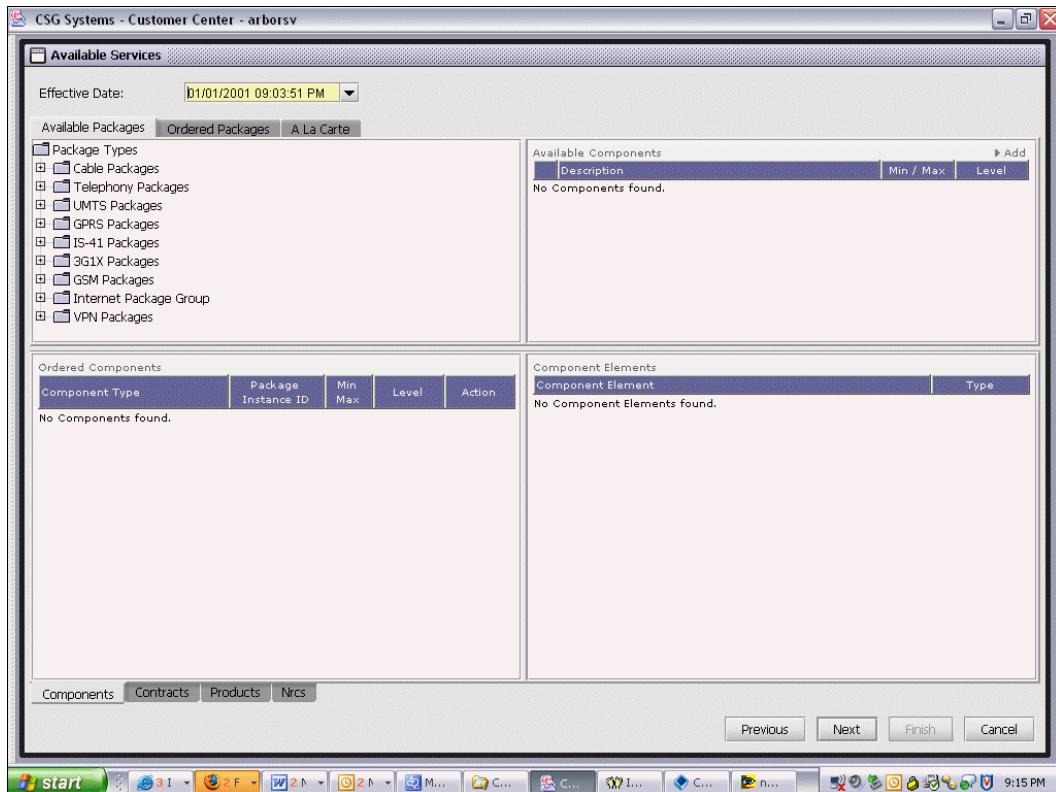
Note: The steps in this procedure are grouped by task and window in the Customer Center interface.

Search for an Account window

Summary	Step/Action	Details/Results
Create an account	1. From the right pane of the Search for an Account window, click New Customer Acquisition .	The Available Services window appears. This window contains a list of all packages and a la carte items (products, charges, and contracts) in the system. The CSR makes the appropriate selections for the customer.

Continued on next page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)



Available Services window

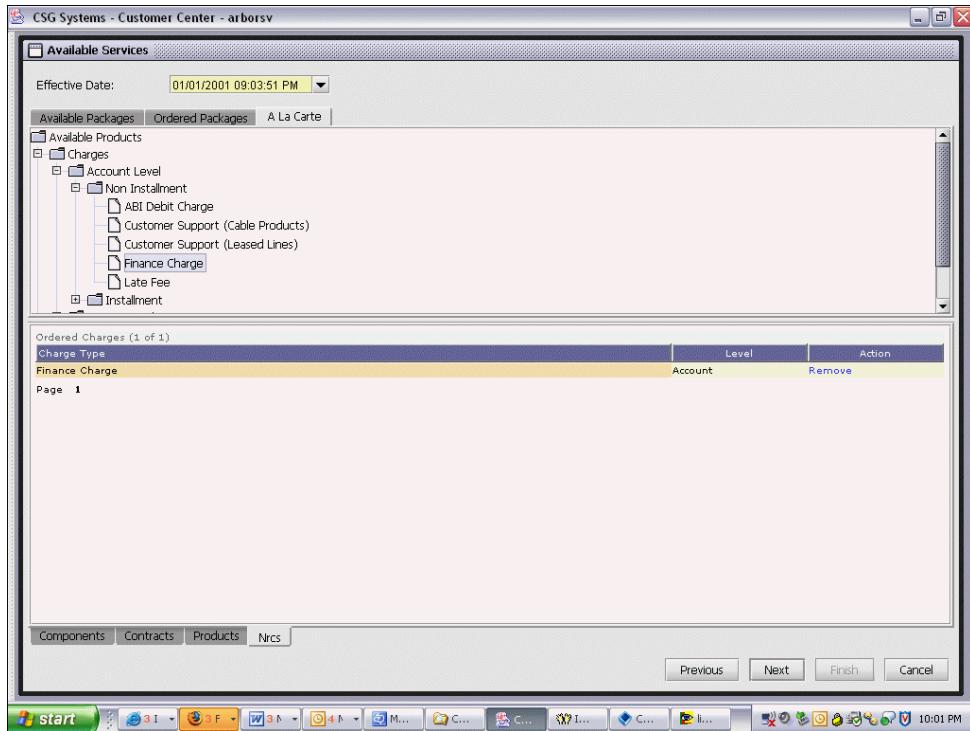
Summary	Step/Action	Details/Results
Create an account, continued	2. Change the Effective date to 1/1/01.	In order to generate invoices during class, we need to backdate this account.

Continued on Next Page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)

Available Services window, continued

Summary	Step/Action	Details/Results
Add a charge (NRC)	<p>3. Click the A La Carte tab.</p> <p>4. Select Charges / Account Level / Non Installment, and choose Finance Charge. Double-click it.</p>	<p>The display changes to show Charges, Contracts, and Products.</p> <p>Finance Charge is added to the Ordered Charges area.</p>



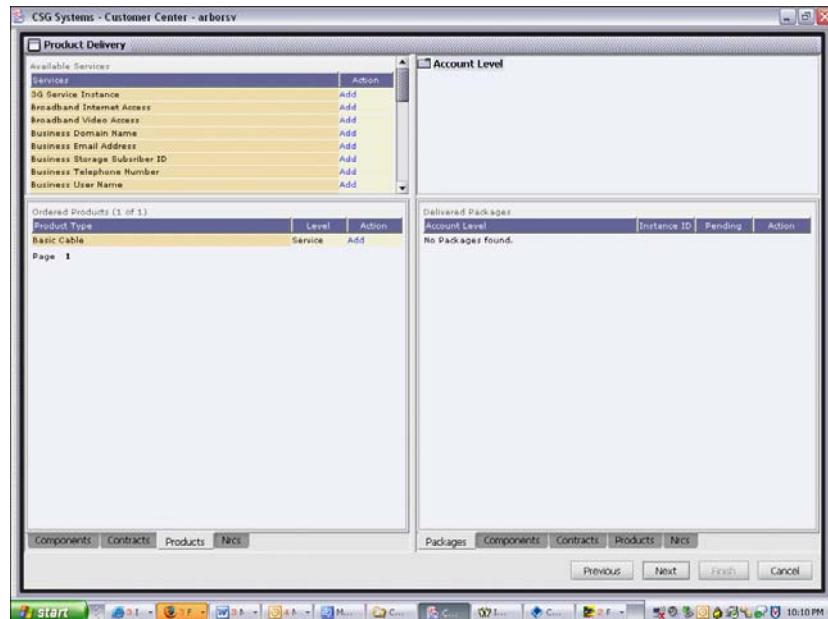
The screenshot shows the 'Available Services' window in the CSG Systems Customer Center. The 'Effective Date' is set to 01/01/2001 09:03:51 PM. The 'Available Packages' tab is selected. In the 'Available Products' tree view, the 'Charges' node is expanded, showing 'Account Level' and 'Non Installment' categories, with 'Finance Charge' selected. Below this, the 'Ordered Charges (1 of 1)' table shows one row: 'Finance Charge' under 'Charge Type', with columns for 'Level' (Account) and 'Action' (Remove). At the bottom of the dialog, tabs for 'Components', 'Contracts', 'Products', and 'Nrcs' are visible, along with 'Previous', 'Next', 'Finish', and 'Cancel' buttons. The Windows taskbar at the bottom shows various icons and the time 10:01 PM.

Continued on next page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)

Available Services window, continued

Summary	Step/Action	Details/Results
Add a service (subscription)	<p>5. Return to the A La Carte area and collapse the Charges path. Select Products / Cable, Product Group / Cable, Product Line, and choose Basic Cable. Double-click it.</p> <p>6. Click Next.</p>	<p>Basic Cable is added to the Ordered area.</p> <p>The Product Delivery window appears. The CSR specifies which products and charges should be associated with ("delivered to") which services.</p>

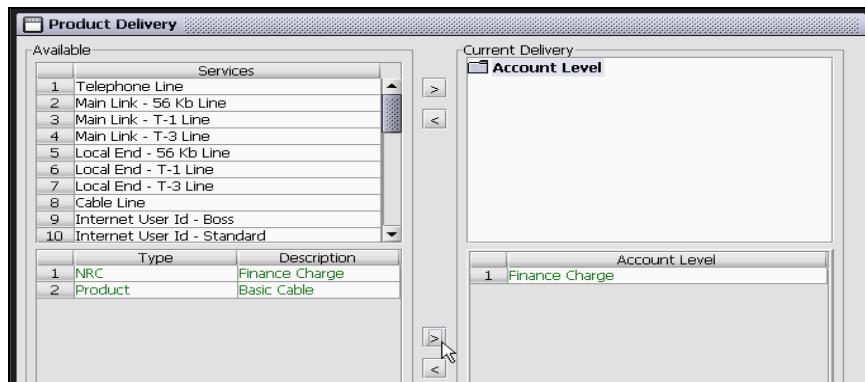


Continued on next page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)

Product Delivery window

Summary	Step/Action	Details/Results
Associate the charge (NRC) to the account	<p>1. Select Account Level from the right-hand pane. Select the Finance Charge from the Ordered Charges pane. Click the > button near the middle of the window to associate the charge with the account.</p>	<p>Finance Charge is displayed in the Account Level area of the window.</p> <p>Because the charge we selected from the previous window is to be at the account level (not service-specific), on this window it is associated directly with the account.</p>

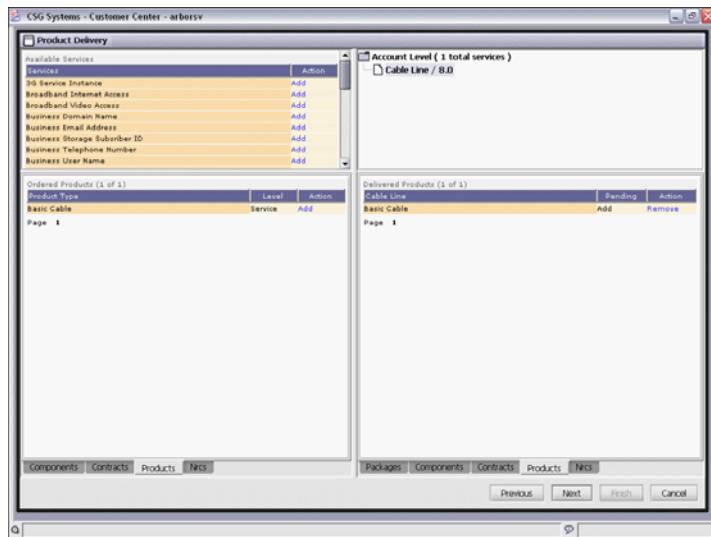


Continued on Next Page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)

Product Delivery window, continued

Summary	Step/Action	Details/Results
Associate the product (RC) to the service (subscription)	<p>2. From the Available Services pane, select Cable Line and click Add.</p> <p>3. Select Cable Line from the Current Delivery pane. Select Basic Cable from the Available pane. Click Add to associate the product with the service.</p>	<p>Cable Line is displayed in the Current Delivery pane.</p> <p>Basic Cable is displayed in the Cable Line area.</p>

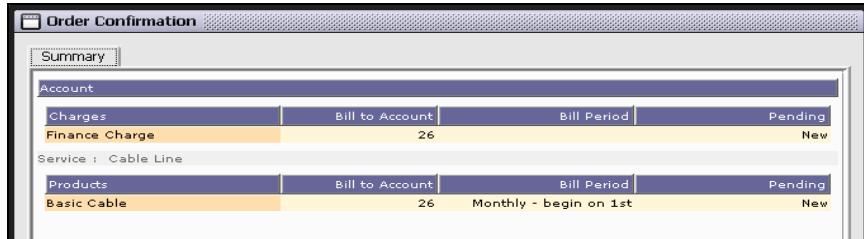


Continued on Next Page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)

Product Delivery window, continued

Summary	Step/Action	Details/Results
Begin order confirmation process	4. Click Next.	The Order Confirmation window appears. The CSR can view what the customer has chosen and what type/how many services will be created as a result.

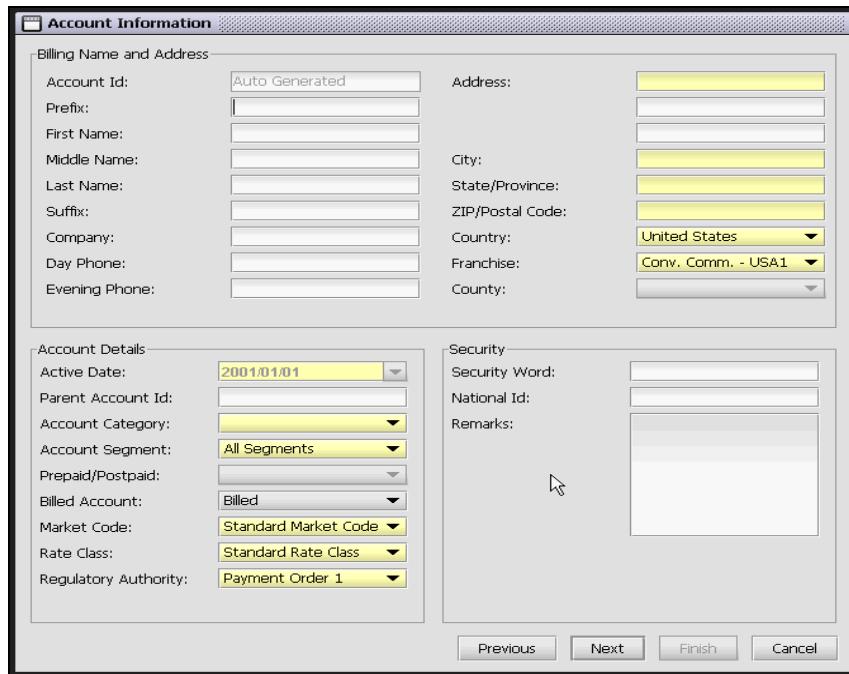


Order Confirmation window

Summary	Step/Action	Details/Results
Confirm the order	1. Confirm that the charges, products, and services are accurate.	Account-level and service-level elements are displayed separately.
View the quote	2. From the Account banner, click on the Quote link. 3. Click Ok on the Quote , then click Next .	The Quote window appears, showing the total cost per billing period for new products and charges. The Account Information window appears.

Continued on Next Page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)

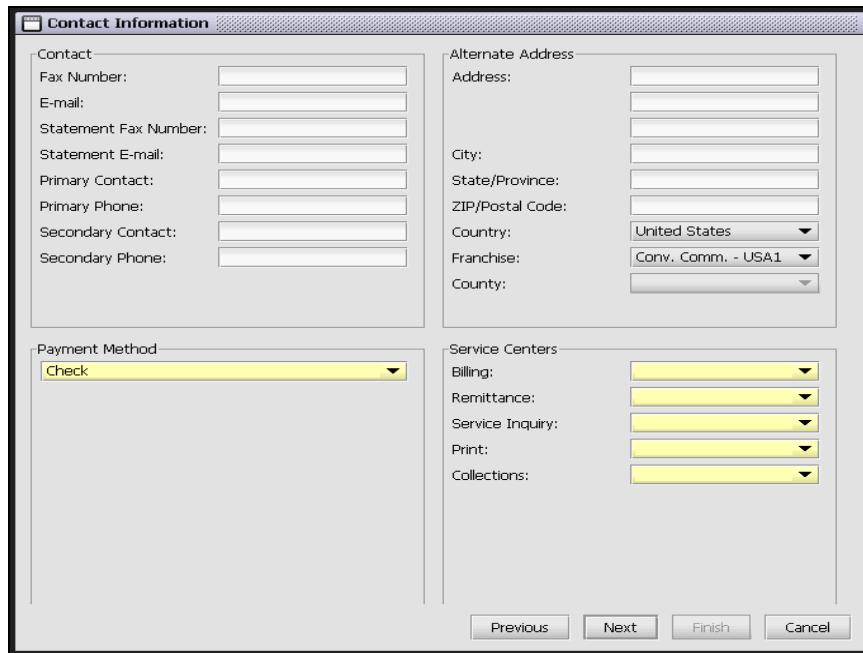


Account Information window

Summary	Step/Action	Details/Results
Complete customer account information	<ol style="list-style-type: none"> 1. Complete the name, company name, phone, and address fields, using information provided by the instructor. 2. In the Account Details area, confirm that the Active Date is correct (1/1/01). 3. From the Account Category drop-down, select Business. 4. Click Next. 	<p>We will do more work with this account later.</p> <p>Notice that the date cannot be changed from this window.</p> <p>Notice that the Company field is marked as required (highlighted in yellow).</p> <p>The Contact Information window appears.</p>

Continued on next page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)



Contact Information window

Summary	Step/Action	Details/Results
Complete customer contact information	1. If desired, enter information into the fields in the Contact and Alternate Address areas.	Note that these fields are optional.
Choose payment method	2. Notice what happens when you choose Credit Card from Payment Method area (but leave the selection of Check). From the Service Centers area of the window, make the appropriate selections from the drop-downs.	These fields are required.

Continued on Next Page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD, CONTINUED

Contact Information window, continued

Summary	Step/Action	Details/Results
	3. Click Next.	The Billing Information window appears.

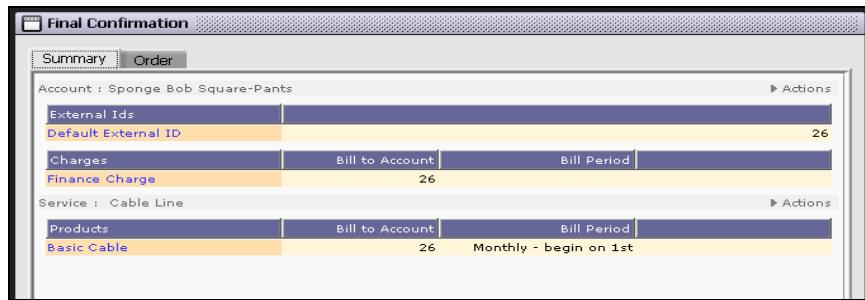


Billing Information window

Summary	Step/Action	Details/Results
Review information	1. Explore the other options available for these fields, but do not make any changes at this time. 2. Click Next.	Most of these fields are required. The Final Confirmation window appears.

Continued on next page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)

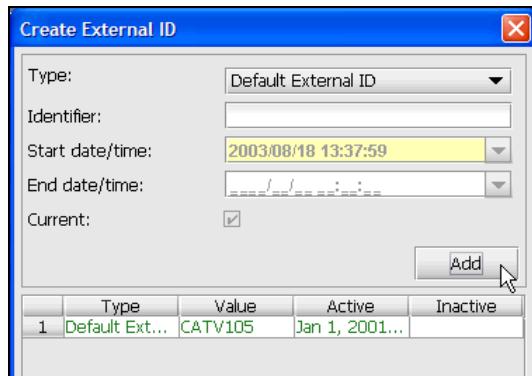


Final Confirmation window

Summary	Step/Action	Details/Results
Add external ID	<ol style="list-style-type: none"> From the Summary tab, locate the Service that you are adding to this account (Cable Line). From the Actions drop-down, select Add External ID. Explore the different types of external IDs that can be added, but do not change the selection from Default External ID. Enter a unique ID (e.g., CATV105 [your initials]) in the Identifier field and click Add. 	<p>The Create External ID dialog appears. Remember that each service requires an internal and external ID. We will assign an External ID at this time.</p> <p>Notice that the Start date/time cannot be changed.</p> <p>The new external ID is shown at the bottom of the dialog.</p>

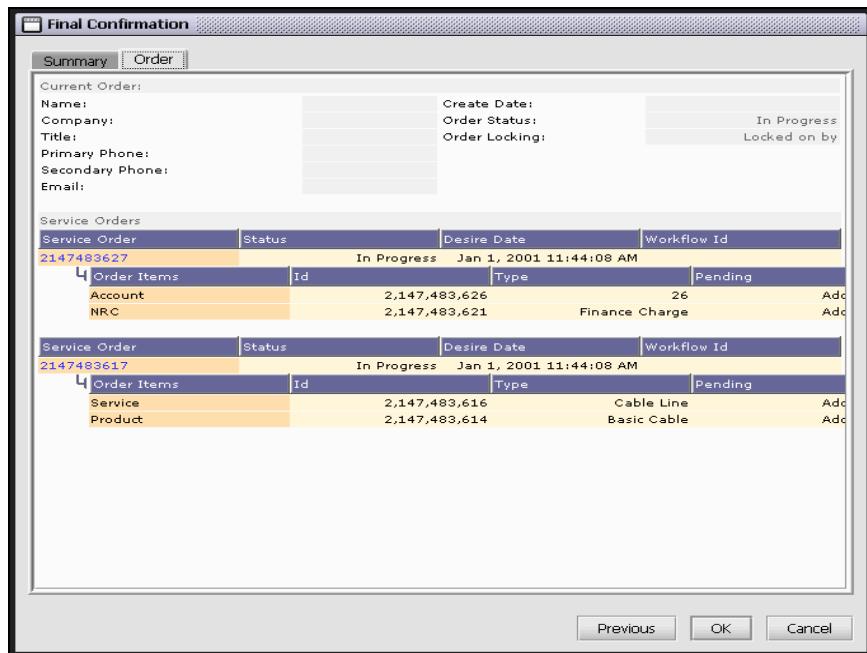
Continued on next page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)



Final Confirmation window, continued

Summary	Step/Action	Details/Results
	4. Click Ok.	The Final Confirmation window is again active.
	5. Click on the Order tab.	Look over the Service Order information contained on this window.



Continued on Next Page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)

Final Confirmation window, continued

Summary	Step/Action	Details/Results
Complete the confirmation	6. Click Ok.	The Account Summary window appears.

The screenshot shows the 'Account Summary' window for an account named 'Sponge Bob Square-Pants'. The window is divided into several sections:

- General Information:** Shows the account number (26), name (Sponge Bob Square-Pants), address (Pineapple), and category (Business).
- Balance Information:** Shows a total due of \$0.00.
- Order Information:** Shows the current order (30003) is in progress, created on Aug 18, 2003.
- Detailed Sections:**
 - Name and Address:** Shows the primary address (The Hamburger Stand, Pineapple, Under-the-Sea, NY) and a secondary address (United States, United States).
 - Billing Address:** Shows the billing address (Conv. Comm., - USA1, 800-555-1212).
 - Contact and Service Centers:** Shows contact info, service centers, and billing details.
 - Security:** Shows security settings like security word, national ID, and remarks.



Tip: When we created our One Step Connect account, we clicked **End Session** and then committed the order.

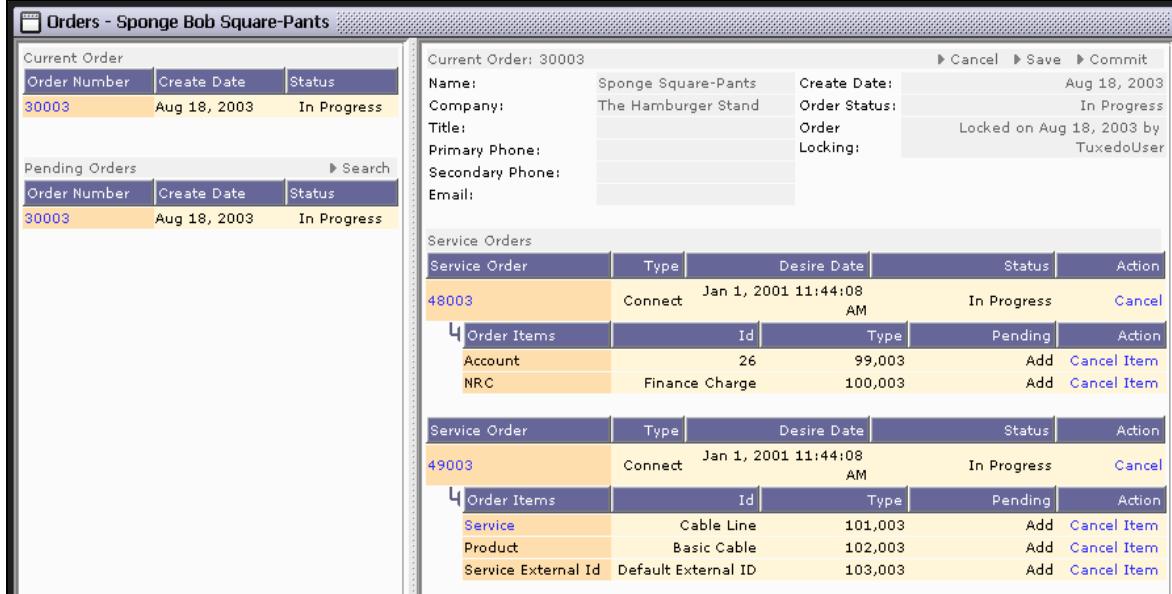
This time we will commit the order and then end our session with this account.

Continued on next page

CREATE AN ACCOUNT USING THE NEW CUSTOMER ACQUISITION WIZARD (CONTINUED)

Account Summary window

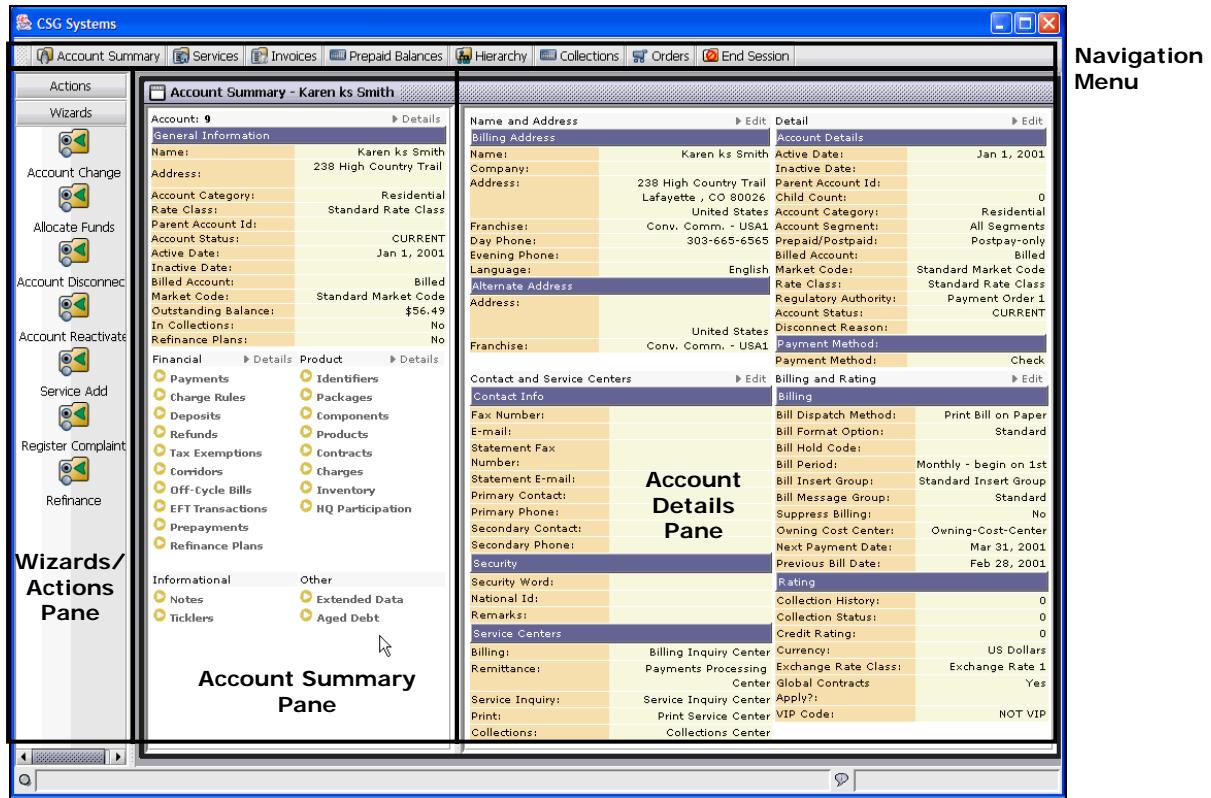
Summary	Step/Action	Details/Results
Complete the confirmation	1. From the Account Summary window, click the Orders button.	The Orders window appears.



Orders window

Summary	Step/Action	Details/Results
View order details	1. Click on the number of the Current Order .	Order details are shown in the right pane.
Save the order	2. In the top right corner of the window, click Save .	A dialog confirms that the order was saved and prompts you to confirm the order.
Commit the order	3. Click Yes .	A dialog confirms that your order was committed.
Return to the Search window	4. Click End Session .	The account you added is closed and the Search for Account window appears.

EXPLORE THE ACCOUNT SUMMARY WINDOW



**Navigation
Menu**

Wizards/Actions Pane

The left pane contains a list of wizards and actions:

- **Wizards** – These are the wizards that are used to carry out account level tasks such as changing or adding products, adding services, disconnecting the account, etc.
- **Actions** – These are the actions you can take against accounts, such as making payments, creating charge rules, etc.

Account Summary Pane

The center pane contains a summary of account information and links to other views..

Account Details Pane

The right pane shows details of selections from the account summary pane. To return to the default view, click the **Details** link from the top of the account summary pane.

Navigation Menu

Use the navigation menu to access the windows listed.

Note: Use the **Account Summary** to access *account-level* elements. Use the **Services** window to access *service-level* elements.

EXERCISE: PUT IT ALL TOGETHER

Create a new account using the following information:

1. From the Available Services window, add these Products (RCs) from the Internet Product Line:
 - Effective Date: 1/1/01
 - Basic User Charge (Account level)
 - Home User ID (Service level)
2. From the same window, add this Charge (NRC):

Finance Charge (Account level)
3. From the Product Delivery window, add this Service and associate the Products and Charges with the appropriate level:
 - Internet User ID – Standard
4. From the Order Confirmation window, enter the cost for these account elements:
 Finance Charge \$ _____
 Basic User Charge \$ _____
 Home User ID \$ _____
5. Use the following customer information. Accept the default information for rate class, service centers, billing period, etc.
 - Name: Olive Green [If you are sharing a database, enter your initials at the start of the Last Name field.]
 - Address: 42 Washington Circle, Miami, FL 33126
 - Account Category: Residential
6. On the Final Confirmation window, add the following External ID for the Service
 - green[YourInitials]@olive.com
7. After committing the order, draw the model of Olive's account.

REVIEW CUSTOMER CENTER

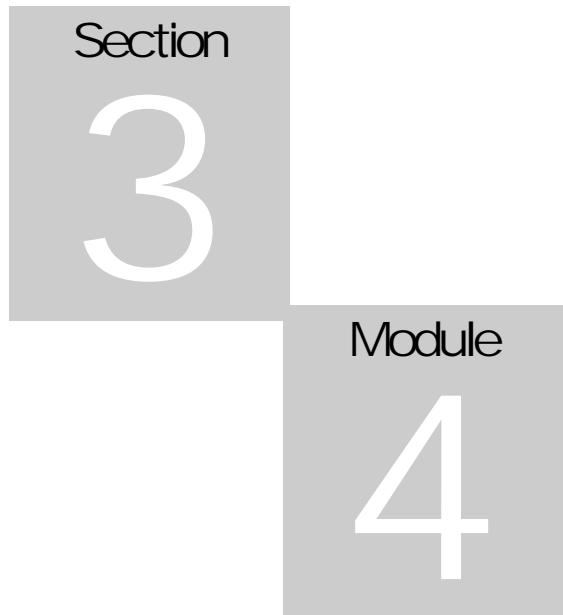
Review Customer Center

- Create an account with One Step Connect
- Add a package
- Find accounts in Customer Center

ESG 

For More Information Full details are covered in the User Guide document.

NOTES



3.4. PROMOTIONAL DATA ENTITIES

MODULE OBJECTIVES

By the end of this module, you will be able to:

- List the promotional Kenan BP data entities
- Given a customer example, explain the relationships between data entities
- Given a realistic business requirement, identify relevant data entities

Previously, we learned about account, service, and charge (RCs, NRCs and usage) data entities.

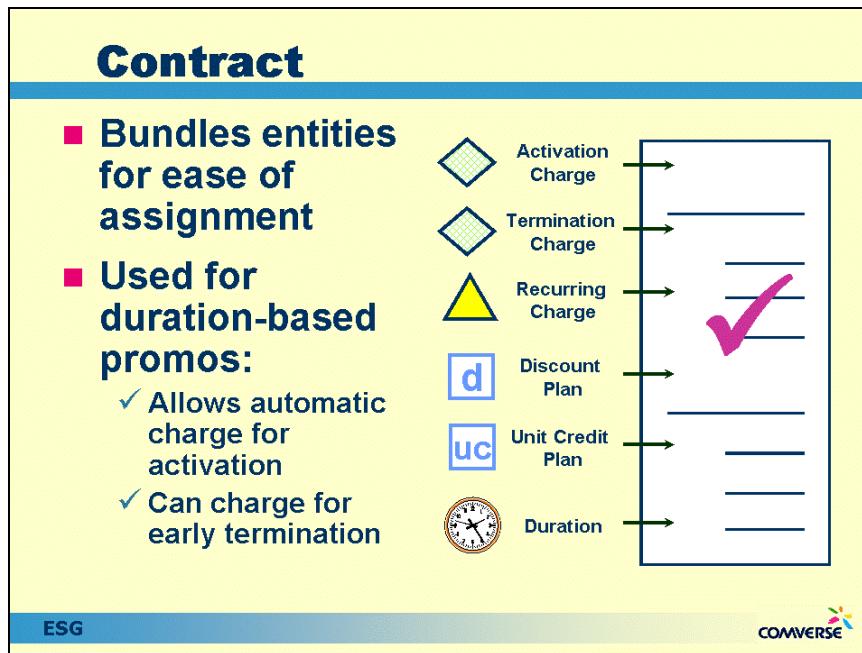
Reminder: while “charge” in the context of Customer Center is very specific in that it means “NRC,” when we talk about configuring entities, it can refer to any of the charge domains.

This module covers four additional entities:

- contracts
- discounts
- unit credits
- packages

Discounts and unit credits modify charges to reduce the amount on a bill. Contracts and packages are used as promotional and assigning tools that simplify CSR tasks.

CONTRACT



Simplify assigning

As an assignment tool, contracts bundle items to be assigned automatically. This means that CSRs can use “one click” assigning, saving time and reducing the possibility of errors.

One example of a contract is offering 50% off Internet access for 3 months (a discount on an RC over a specific duration).

Within a contract, you can include:

- 2 NRCs - one activation NRC and one termination NRC
- 1 RC
- 1 Discount Plan
- 1 Unit Credit Plan

A contract must contain at least one of these entities, but it need not contain all of them.

Contract duration

Contracts can have a specified duration, although duration is not required. A contract is the only BP data element that has a duration. Duration can be measured in days, weeks, months, years, or the contract can be configured so that it never expires. Setting contract duration allows you to limit the amount of time a discount or unit credit is active. The contract can assign an NRC of a termination fee. If a contract is voluntarily canceled before reaching duration, a termination fee is automatically charged.

CONTRACT DETAILS AND EXAMPLES

Contract levels	Contracts do not have levels when configured; the entities contained in a single contract determine its level. These entities must belong to the same level. A contract is assigned at the account or service/subscription level.
Contract examples	<p>There are many options for designing contracts. Here are several examples:</p> <ol style="list-style-type: none"> 1. You want customers to pay a \$6 monthly fee and receive a 100% discount on all local calling. This promotion never expires. <i>Assign an RC for the monthly amount and a discount plan of 100% for local usage with an unspecified duration.</i> 2. You want customers to pay a \$25 installation fee and receive 3 free Pay-Per-View movies. This promotion never expires. <i>Assign an activation NRC of \$25 and a UC plan with 3 free events. Do not specify duration.</i>

Note: If the contract contains a duration, do not include RCs that you do not want to expire at that time.

3. You want customers to pay \$19.95 per month and a \$50 activation fee to receive unlimited night and weekend calling. This promotion lasts for one year. If canceled before the end of the year, the customer will be charged \$175.
The contract will contain an activation NRC of \$50, a discount plan so that night and weekend calls are discounted 100%, and a termination NRC of \$175. Limit the duration to one year. Create an RC for \$19.95/month, but do not put it in the contract.
4. You want customers to pay a \$50 setup fee and for \$5 per month, receive three free Pay-Per-View movies. This promotion lasts for 3 months. If they cancel the contract early, you want them to pay a \$25 early termination fee.
Assign an activation NRC of \$50, a termination fee of \$25, and a UC plan with 3 free events. Limit the duration to 3 months. Create an RC of \$5/month, but do not include it in the contract.

DISCOUNT

Discount

- Reduces the amount of a charge
- Can be applied to any charge domain
- Can be applied to account or service level
- Must be placed in a discount plan
- Must be placed in a contract
- Can be calculated as Bulk or Incremental



ESG
CONVERSE

Reduces the amount of a charge

Discounts offer a percent off a charge or a monetary rebate. For example, a discount can offer 25% off long distance calls or can offer \$15 off long distance calls. (More examples and different ways to calculate discounts are presented on the next page.)

Can be applied to any Charge Domain

You can discount any charge domain -- usage, RC or NRC. You can apply a discount to all charges, all charges in a specific charge domain, or to a single charge within a specific charge domain.

Can be applied at account or service/subscription level

The level at which a discount is assigned can affect the way the discount is applied:

- Discount assigned at account level = all charges billed to that account are eligible for discounting
- Discount assigned at service/subscription level = only charges billed through that service/subscription are eligible for discount.

Must be placed in a Discount Plan

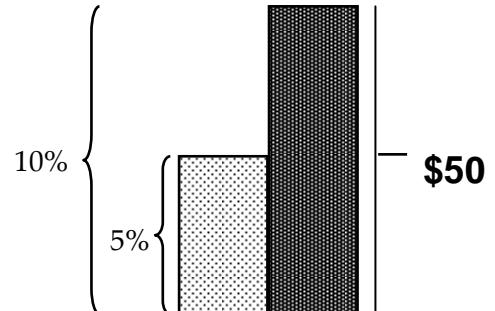
A discount plan is a database entity that is associated with one or more discounts. After defining a discount, you can place the discount in more than one discount plan.

Must be placed in a Contract

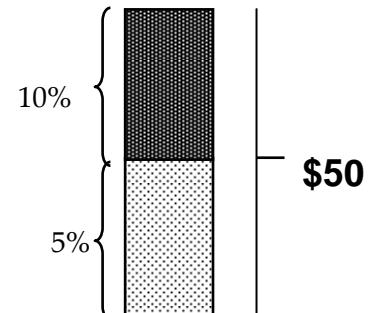
In order to assign a discount to an account or service, the plan it is in must be placed within a contract.

DISCOUNT (CONTINUED)

Bulk Discount	If total charges are under \$50, 5% discount applies If total charges exceed \$50, 10% discount applies to total invoice
----------------------	---



Incremental Discount	5% off first \$50 of charges 10% off charges over \$50
-----------------------------	---



Question: Given a charge of \$60, what would be the amount of a Bulk discount?

Incremental discount?

- Discount Examples:**
- 25% off all RCs -- **percent off**, limited to a particular domain.
 - 25% off monthly cable access charges - **percent off**, limited to a specific charge within a domain.
 - \$10 off all RCs - **monetary rebate**, limited to a particular charge domain.
 - \$10 off monthly cable access charges - **monetary rebate**, limited to a specific charge within a domain.
 - 5% off long distance usage if total long distance usage is less than \$50, 10% off all long distance usage if total long distance usage is more than \$50 - **bulk percent off**, limited to a particular charge within a domain.
 - 5% off the first \$50 of long distance usage, 10% off all long distance usage over \$50 - **incremental** percent off discount, limited to a particular charge within a domain.

ADVANCED DISCOUNT OPTIONS

Advanced Discount Options

- *Cross-Product Discounts*
- *Historic Discounts*
- *Individual Case Basis (ICB) discounts*

ESG



Cross-Product discounts Customers can earn discounts based on their use of a different product via *Cross-Product Discounts*

Historic discounts Customers can earn discounts based on past performance via *Historic Discounts*

ICB discounts CSRs can assign *Individual Case Basis (ICB) Discounts* for special customers

UNIT CREDIT (UC)

Unit Credit (UC)

- Applies free usage or monetary rebate
- Applied to account or service level
- May be dependent or independent of account bill cycle
- Must be placed in a unit credit plan
- Must be placed in a contract



ESG
COMVERSE

Free usage or monetary rebate Unit credits are primarily used to offer free usage, such as 10 free minutes of long distance calls.

UCs can also offer a monetary rebate. If they are rebate-based, they can be applied to any charge domain.

Account or service/subscription level Like discounts, the level at which a unit credit is assigned is important to how it is applied.

If a unit credit is assigned at the account level, you decide if you want all charges to use a common pool or you want all charges to have their own pool.

For example, if offering 60 minutes of free long distance at the account level to an account with 2 telephone services, you have two choices:

1. Configure UC to apply 60 minutes free long distance that both services have equal access to. When 60 minutes have been used, the UC is completed.
2. Offer 60 minutes to each telephone service through configuration and assignment at the account level. This is fully configurable.

UNIT CREDIT DETAILS AND EXAMPLES

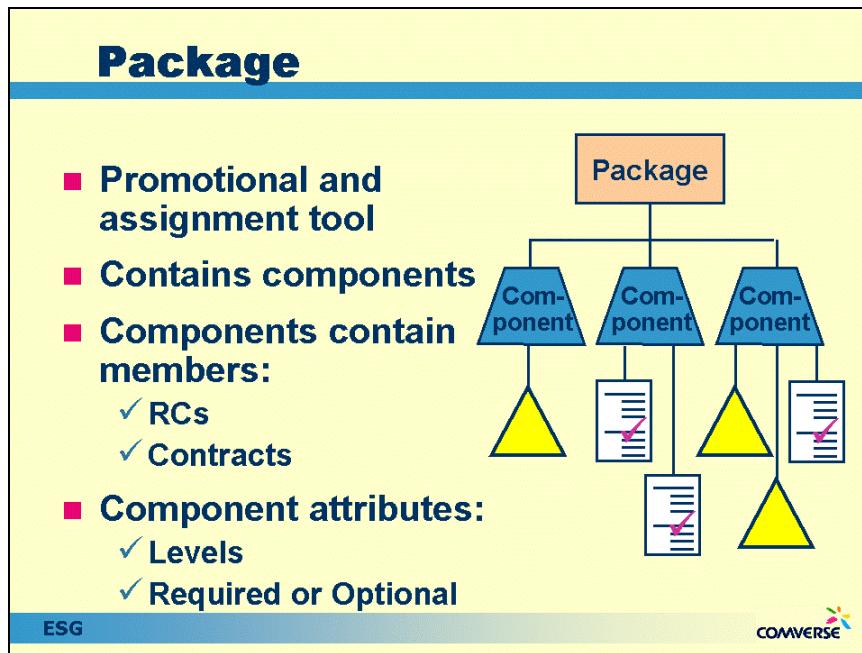
Unit credit cycles	<p>Unit credits can be configured as cycle-dependent or cycle-independent.</p> <p>An example of a <i>cycle-dependent unit credit</i> is one that offers 3 free Pay-Per-View events every month.</p> <p>In a <i>cycle-independent unit credit</i>, you can offer 10 free Pay-Per-View events to be used in a 6-month time period. In this case, the free events need to be used in a 6-month time frame or they will be forfeited.</p> <hr/> <ul style="list-style-type: none"> ● NOTE: In either case, you would also have to consider the levels at which credits are assigned.
Must be placed in a Unit Credit Plan	All unit credits must be in a unit credit plan. A unit credit plan is a database entity that is associated with one or more unit credits. A unit credit can be associated with more than one unit credit plan.
Must be placed in a Contract	In order to assign a unit credit to an account or service, the plan it is in must be placed within a contract.
Examples of Unit Credits	<p>Let's look at two sets of examples for applying unit credits:</p> <ul style="list-style-type: none"> ▪ 3 free Pay-Per-View movies every month – cycle-dependent free usage. ▪ \$10 rebate on Pay-Per-View movies every month – cycle-dependent monetary rebate. <p><i>Impact: If you do not use 3 Pay-Per-View movies or incur \$10 in Pay-Per-View charges in a single month, you will lose the remaining value for that month.</i></p> <ul style="list-style-type: none"> ▪ 10 free Pay-Per-View movies to be used over 6 months – cycle-independent free usage. ▪ \$100 rebate on Pay-Per-View movies to be used over 6 months – cycle-independent monetary rebate. <p><i>Impact: You have 6 months to use the 10 Pay-Per-View movies or qualify for the \$100 rebate regardless of your standard bill cycle.</i></p>

EXERCISE: IDENTIFY DATA ENTITIES

In this exercise you will identify promotional Kenan BP data entities in a business requirement. Refer to the class handout for ABC Communications' Strategic Plan.

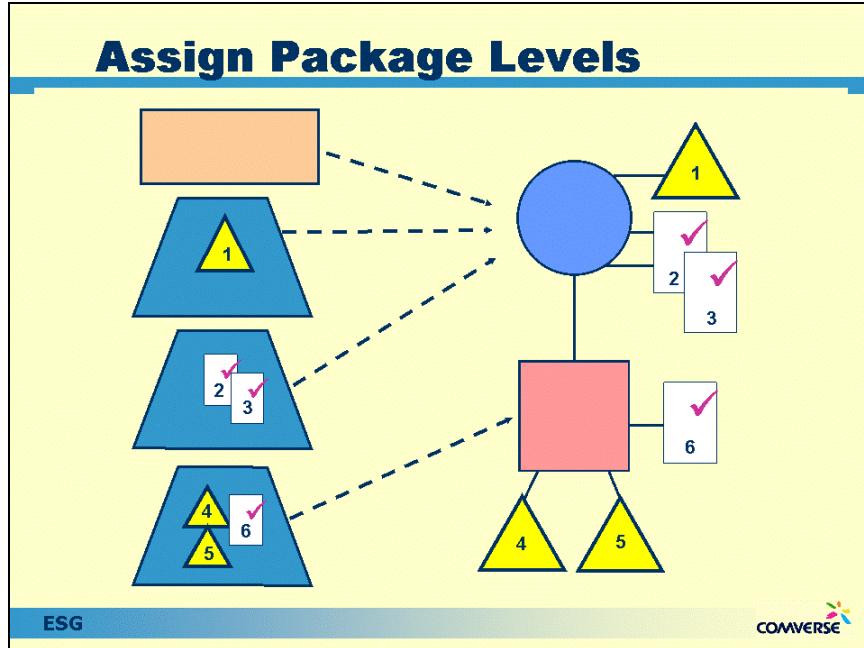
1. List details for the discount plans in the course handout for the ABC Communications cable offering.
 2. List details for the unit credit plans in the ABC Communications cable offering.
 3. List details for the contracts in the ABC Communications cable offering.

PACKAGE



Promotional and Assigning Tool	A package allows you to associate a variety of RCs and contracts offered as a marketing promotion. It also aids the CSR, who can assign a set of items through a package more quickly and accurately than by doing each individually. Bundling ensures that the CSR assigns the correct and appropriate set of charges, discount plans, and unit credit plans.
Package Components	A package is made up of components. A single component may appear in more than one package. This allows you to reuse a component in a variety of packages, reflecting the business needs of your organization.
Component Members	Members of components may only be RCs or contracts. If a discount plan, unit credit plan, or NRC needs to go into a package, it must first be placed in a contract.
Component Attributes	Every component has a level (account or service/subscription). All members of a single component must be assignable at the same level as the component. The package is always considered to be account-level, even if all of its components are service/subscription-level. Each component is also designated as a required or optional part of the package. When a component is assigned to an account, all of its members are assigned. (It cannot be split.)

ASSIGN PACKAGE LEVELS



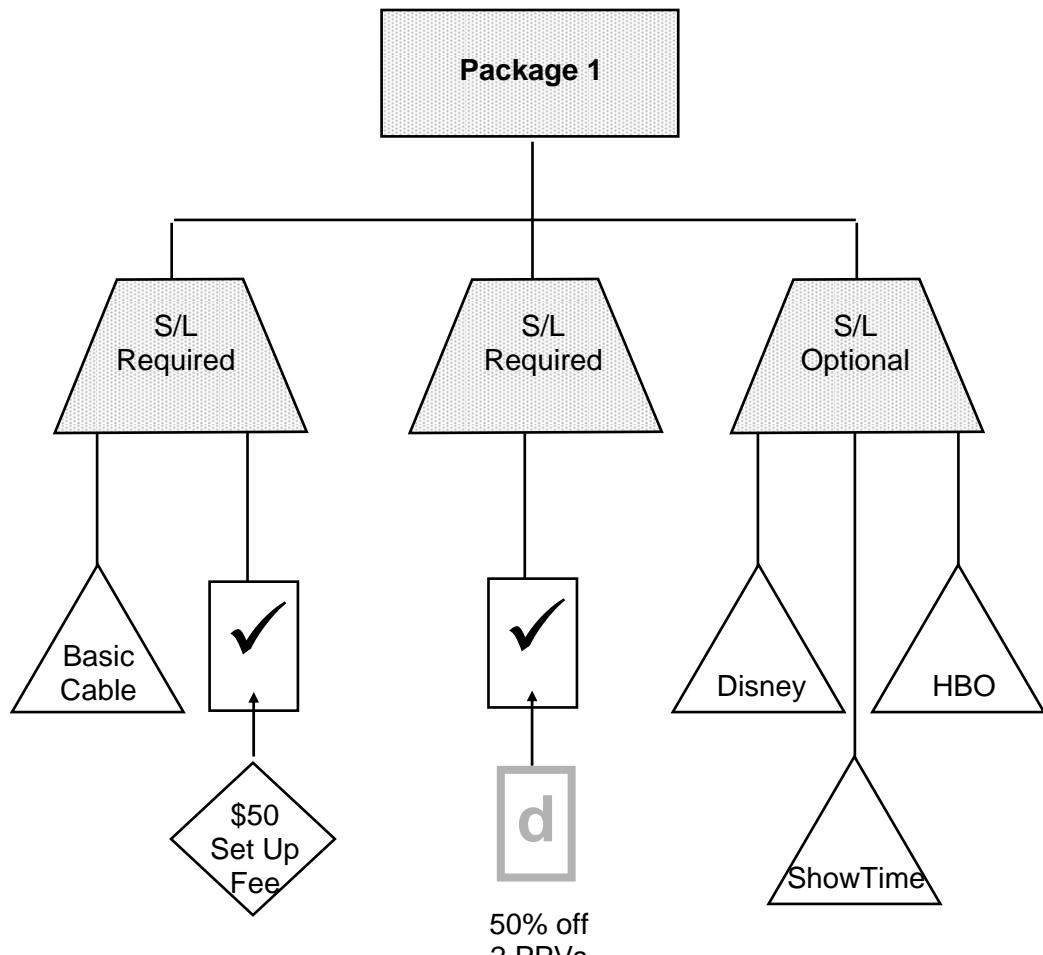
When a component is assigned, the RCs and contracts it contains are automatically assigned. Notice the example above.

- The package – with all components – is associated to the account.
- The first component is account-level and contains an account-level RC. When this component is assigned, the RC is assigned to the account.
- The second component is account-level and contains two account-level contracts. When this component is assigned, the two contracts are assigned to the account.
- The third component is service/subscription level. It contains two service/subscription-level RCs and one service/subscription-level contract. When this component is assigned, the two RCs and one contract are automatically assigned to the service/subscription.

EXAMPLE: PACKAGES

- Package 1** If you purchase Basic Cable, you will automatically receive the one-time \$50 Set Up Fee. Then, you may add HBO, ShowTime and Disney for an additional \$14.95 per month. Also, you may order a third option: 2 Pay-per-View movies at a 50% discount every month.

This offering represents one required component and two optional ones. The required component contains Basic Cable and a \$50 Set Up Fee. The first optional component contains the HBO, ShowTime and Disney RCs. The second required component includes a contract containing a discount plan for 2 Pay-Per-View movies. All components would likely be assigned at the service/subscription level.



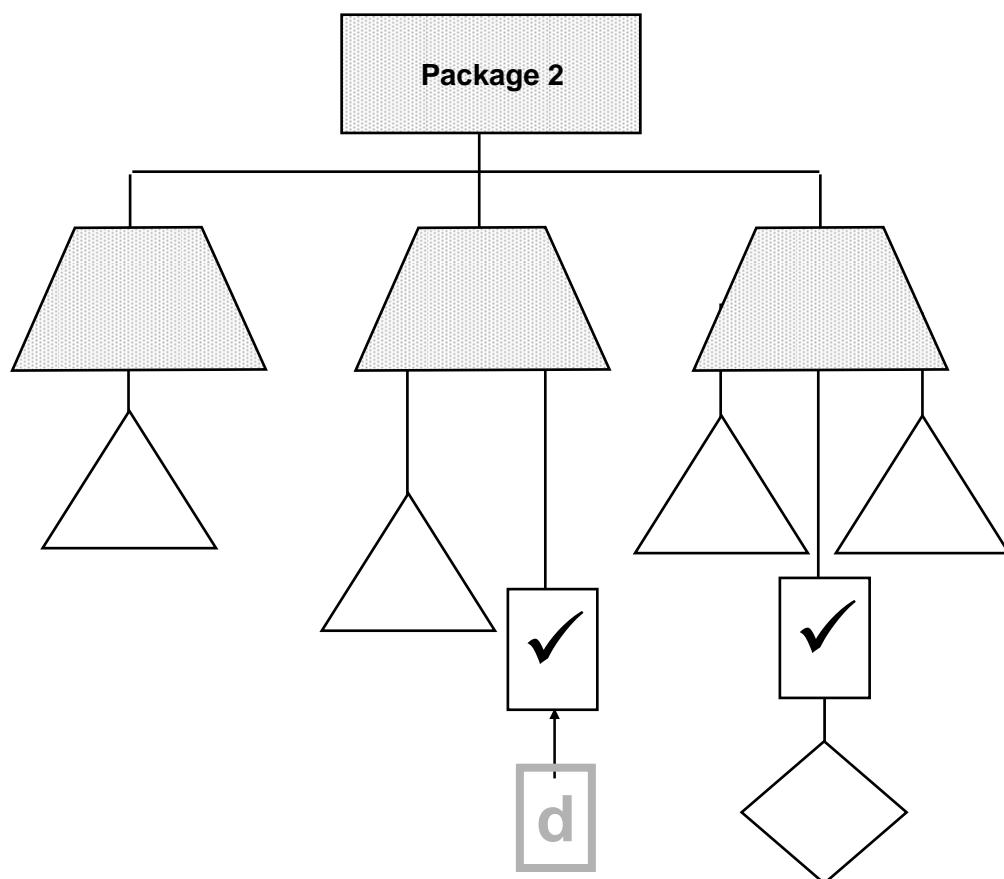
S/L = Service Level

EXERCISE: MODEL A PACKAGE – TASK 1

Read the description for Package 2. Then, label the component members with the values listed and label the components *optional* or *required*.

If you purchase Internet Access and Email, you pay a one-time \$100 Set Up Fee. Then, you have two options: (1.) Order *one* additional Email account, and/or (2.) Order Web Hosting services for \$14.98 per month, 50% off the normal rate.

- | | |
|-------------------------|---------------------------------|
| 1 Internet Access | 5 Web Hosting |
| 2 Email (required) | 6 Web Hosting Discount Contract |
| 3 \$100 Set Up Contract | 7 Set Up Fee |
| 4 Email (optional) | |



EXERCISE: MODEL A PACKAGE – TASK 2

Identify the package in the course handout for the ABC Communications cable offering.

Model the package, drawing and labeling all relevant parts and descriptions. Determine the level of each component and whether it is required or optional.

REVIEW PROMOTIONAL ENTITIES

Review Promotional Entities

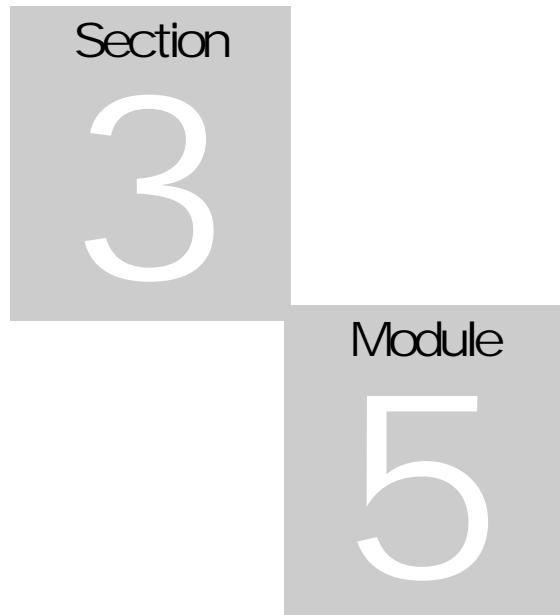
- Contract can have 2 NRCs, 1 RC, 1 UC Plan, 1 Discount Plan, and a duration
- Discount reduces the payable amount of a charge and must be in a contract
- UC provides free usage or reduces the payable amount of a charge and must be in a contract
- Package is made up of components:
 - ✓ Components are made up of members
 - ✓ RCs and contracts are only valid members

ESG



For More Information

Additional detail is covered in other ESG course offerings. Consult the ESG course catalog. Also consult the **Guide to Products, Rates & Discounts** documentation.



3.5. ASSIGN PROMOTIONAL DATA ENTITIES

MODULE OBJECTIVES

By the end of this module, you will be able to:

- Given a realistic customer example, model promotional data entities.
- Use the model you create to:
 - ◆ Assign data entities a la carte
 - ◆ Assign data entities using a package

In the previous module, you learned about discounts, unit credits, contracts, and packages. In this lesson, you will learn to assign these entities to account and service levels.

EXERCISE: CREATE ACCOUNTS WITH CONTRACTS

Create Rose Budd's Account Creating a new account with contracts or package components is very similar to creating accounts with basic data entities. Create a new account with the following cable and telephone elements:

1. Add these Products (RCs):
 - Effective Date: 1/1/01
 - Basic Cable
 - Dial Tone (Telephony Product Line)
2. Also add these Contracts:
 - First 3 PPV Free Usage Credit (to be associated with the Cable Line Service)
 - Local Calling Plan Contract (to be associated with the Telephone Line Service)
 - \$5 Rebate for Total Charges over \$15.00 (at the Account Level)
3. Next, add the Services mentioned above, and associate the Products and Contracts with the appropriate level.
4. View the Quote.
5. Use the following customer information. Accept the default information except where indicated.
 - Name: Rose Budd [If you are sharing a database, enter your initials at the start of the Last Name field.]
 - Company: Rose's Flowers
 - Address: 354 Lincoln Road, Cleveland, OH 44113
 - Account Category: Business
6. On the Final Confirmation window, add the following External ID for the Services.
 - Cable Line: CATV45[YourInitials]
 - Telephone Line: 2166548989[YourInitials]
7. After committing the order, draw the model of Rose's account.

EXERCISE: CREATE ACCOUNTS WITH PACKAGES

Create Barry White's Account Create a new account with a cable package:

1. Add this package and all components:
 - Effective Date: 1/1/01
 - Basic/HBO/Disney Cable Package
 2. Also add this Charge (NRC):
 - Cable Installation Charge
 3. View the Quote.
 4. Use the following customer information.
 - Name: Barry White [If you are sharing a database, enter your initials at the start of the Last Name field.]
 - Address: 100 Hollywood Drive, Los Angeles, California 02222
 - Account Category: Residential
 5. Add the following External ID for the Service:
 - CATV106[YourInitials]
 6. Draw a model of Barry White's account.
-

Questions for Discussion: 1. Why must you associate some components to a subscription and others to an account?

2. Why is the package entity called a *assignment tool*?
3. When might you want to assign RCs or NRCs a la carte instead of through a package?

STEPS: ADD ELEMENTS TO AN EXISTING ACCOUNT

Note: When adding new RCs, NRC, or Contracts to an existing account, first answer the two questions below.

1) Are the elements configured to be assigned at the account level or the service level?

Account level Use the Account Change wizard

Service level (See second question)

2) If the element is at the service level, does the service already exist on the account?

Existing service Use the Service Change wizard

New service Use the Add Services wizard

1. Open Customer Center and find the account you need to add the element(s) to.
2. See above to determine which wizard to use.
3. In the first window of the wizard, select the **Effective Date** and **Reason** from the drop-down.
4. Click the **A La Carte** tab, drill down, and select the desired element.
5. Click the **Add** button.
*The selected element is added to the Ordered area of the window.
Add additional elements in the same way, if necessary.*
6. Click **Next**.
7. Complete the rest of the wizard windows and commit the order.

STEPS: ADD A PACKAGE TO AN EXISTING ACCOUNT

Note: Before adding package components to an existing account, refer to the following table to determine which wizard you will use.

To add	...and	...begin by clicking the
A new package	the account does not yet have the associated service	Service Add wizard
Components to an <i>existing</i> package		Service Change wizard
Components to an <i>existing</i> package	the package contains <i>only</i> account level components	Account Change wizard

1. Open Customer Center and find the account you need to add the package to.
2. See the table above to determine which wizard to use.
3. In the first window of the wizard, select the **Effective Date** and **Reason** from the drop-down.
4. Click the **Available Packages** tab and select the desired package.
The package components appear in the right pane. Mandatory components are marked with a ✓, optional components are not selected.
5. Select the desired components.
6. Click the **Add** button.
*The selected components are added to the **Ordered** area of the window.*
7. Click **Next**.
8. Complete the rest of the wizard windows and commit the order.

REVIEW ENTITY ASSIGNING

Review Promotional Entities

- Contract can have 2 NRCs, 1 RC, 1 UC Plan, 1 Discount Plan, and a duration
- Discount reduces the payable amount of a charge and must be in a contract
- UC provides free usage or reduces the payable amount of a charge and must be in a contract
- Package is made up of components:
 - ✓ Components are made up of members
 - ✓ RCs and contracts are only valid members

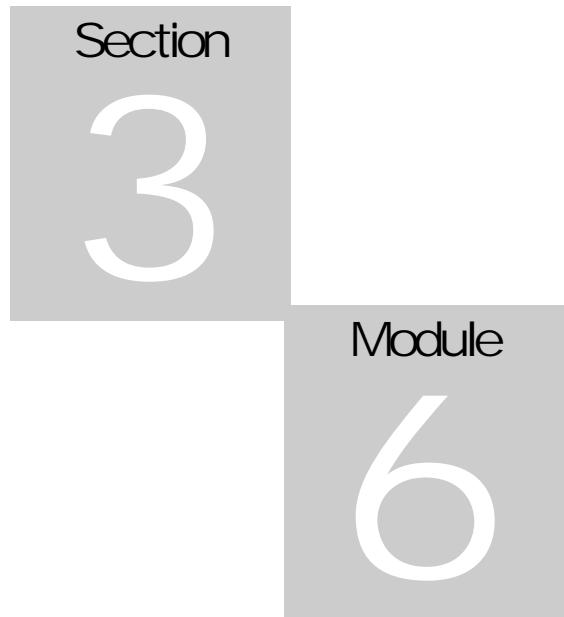
ESG



For More Information

Additional detail is covered in other ESG course offerings. Consult the ESG course catalog. To learn more about the Customer Care interface, refer to the [User Guide](#).

NOTES



3.6. GENERATE INVOICES

MODULE OBJECTIVES

By the end of this module, you will be able to:

- Use Operations Center to:
 - Run a process that generates invoice data
 - Run a process that formats invoices
- Use Customer Center to:
 - View invoices
 - Confirm accuracy of your configuration

Now you have set up RCs, NRCs, usage types, discounts, contracts, and packages for several accounts.

Next you will generate an invoice to verify that all charges and modifications to charges, such as discounts, are correct. **Operations Center** is the interface used to generate invoices.

During these introductory exercises, you assigned entities that had been configured for you in the training database. When you configure your own entities, you will find that running an invoice is a great way to confirm that your configuration is correct.

OPERATIONS CENTER FUNCTIONS

Operations Center Functions

- Start and Stop continuous processes
- Schedule and run batch processes
- Monitor status of processes and databases
- View logs for processes and databases
- Manage alarms
- View statistics

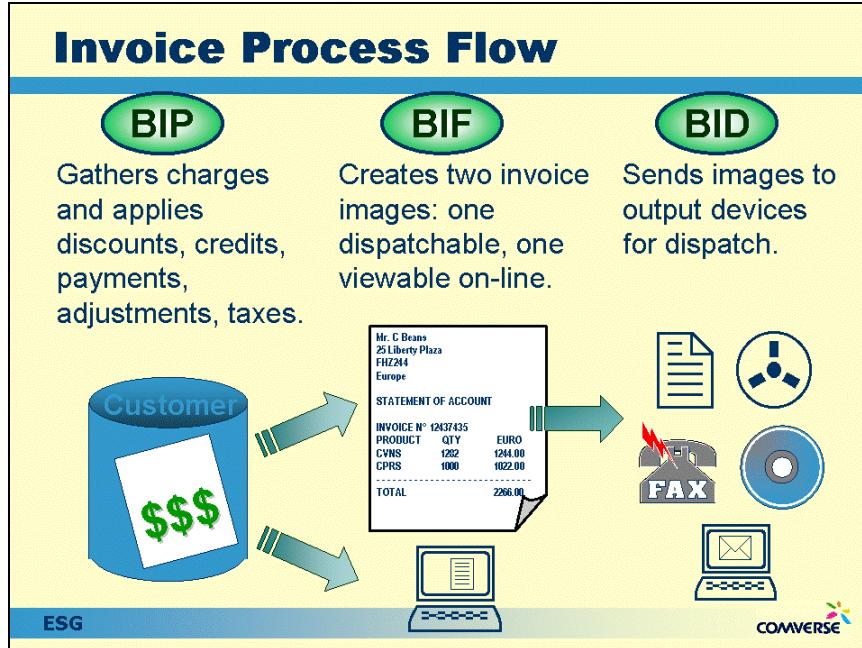
ESG 

Kenan BP processes are configured, scheduled, launched, and monitored with Operations Center via a web browser.

The main components of Operations Center are listed below:

- **Operations Center GUI:** Web based interface that monitors system status and issues control changes.
- **Central Controller:** Enables monitoring, configuring, and controlling of the servers or processors, applications, and database configurations
Agent: Coexists with and can control the application processes running on each host (or node).

INVOICE PROCESS FLOW



The Invoice Process Flow calculates, formats and dispatches all customer invoices. This is accomplished through a set of related processes:

- **Bill Invoice Processor (BIP)** calculates all new charges; applies payments, discounts, unit credits; and calculates and applies taxes.
- **Bill Invoice Formatter (BIF)** formats a screen image and a dispatch image for output devices.
- **Bill Invoice Dispatcher (BID)** sends batch files of dispatch images to an output device.

NOTE:

Invoice Designer is another tool that may be used instead of BIF. This product allows a Kenan BP customer to create an invoice according to user-defined format.

In class, we will be using BIF to create and format invoices.

STEPS: OPEN OPERATIONS CENTER

**Open
Operations
Center**

1. Click the Internet Explorer icon on the desktop.
An internet browser window appears.
2. Enter the URL provided by your instructor.
URL: _____
An Operations Center logon screen appears.
3. The instructor will provide username and password information.
Username: _____
Password: _____
4. Click the Login button to launch Operations Center.
The Operations Center window appears.

STEPS: RUN THE BIP PROCESS

- Run the BIP Process**
1. From the Operations Center window, click Processes.
 2. Select "Schedule Process".
 3. Enter the following data:
 - Module Group: *Invoice Processing*
 - Module Name *BIP – Bill Preparer*
 - Node: *your instructor will tell you what to select*
 - Comment: *optional*
 - Process Name: *Type the process name plus two digits. Example: "bip01"*
 - Task Name: *: Enter a text-based value. Example: your initials, or repeat the value from the Process Name field. 8 character maximum.*
 - Database: *use the name of the database you are working in*
 - Task Mode: *Production*
 - SQL Query: *Optional. Used when you want to limit the process to certain accounts. Format is TABLE NAME.field name=operator value. Example: CMF.account_no=X, where X is the account number, or CMF.bill_lname = 'Green', where Green is the last name on the account. Your instructor may provide required values for other fields. Otherwise, fields will be populated or can remain null.*
 - Schedule Type: *Now*
 4. Click *Submit*.
 5. Minimize the window.
-

Continued on next page

STEPS: VIEW INVOICES

View Account Invoice

1. Open the account in Customer Center.

*Remember that you can navigate directly to the **Invoices** window from the **Search for an Account** window by selecting **Billing Inquiry** from the **Actions** dropdown.*

2. From any other window, click the **Invoices** button to view the invoice.
The Invoice window opens. By default, the most recent invoice is displayed, and the Invoice Detail tab selected. To view a different invoice, select it from the list at the top.
3. Click the **Products and Charges** tab.

A breakdown of this month's charges is presented. The first generated invoice for an account is billed for one month in arrears or one month in advance. To view additional information about any of the items, click the item's link.

The details are displayed in the right pane.

STEPS: VIEW LOGS

**Monitor and
Troubleshoot
BIP Process**

1. From the Operations Center window, click Logs.
2. In the Logs window, select the following:
 - View: Choose the **Logs** radio button
 - Node: Your instructor will tell you what to select
 - Process Name: Select the process you want to view the log for.
*BIPxx contains the Control Report (whether or not the process was successful).
bipxx contains the Process Log (details about the process and outcome).*
 - Log Type: All
 - Log File: Leave blank
3. Click the **View** button.
The Log List appears.
4. Click the appropriate link in the **Log File Name** column.
The log file will display.
5. If errors are reported on the Control Report, close the log and perform step 2 again, only this time view the Process Log to view error information.
If the Control Report for BIP states an inactive invoice, check active dates for the account, subscription and all charge domains.
6. Continue to the next step to format your invoice by running the BIF process.

STEPS: RUN THE BIF PROCESS

- Run the BIF Process**
1. From the Operations Center window, click Processes.
Select "Schedule Process".
 2. Enter the following data:
 - Module Group: *Invoice Processing*
 - Module Name *BIF – Bill Formatter*
 - Node: *your instructor will tell you what to select*
 - Comment: *optional*
 - Process Name: *Type the process name plus two digits. Example: "bif01"*
 - Task Name: *Enter a text-based value. Example: your initials, or repeat the value from the Process Name field. 8 character maximum.*
 - Database: *use the name of the database you are working in*
 - Task Mode: *Production*
 - SQL Query: *Optional.*

Note: In training, do not populate the SQL query field for BIF.
All invoices that have been BIPped but not yet BIFFed will be processed.
 3. Click *Submit*.
 4. Minimize the window.
 5. Now you can view the Bill Image in Customer Center. If it does not appear, check the BIF logs.
-

Continued on next page

EXERCISE: GENERATE AN INVOICE

Task 1 – Create an invoice for Olive Green’s account.

Generate an Invoice for Olive Green
Examine the invoice to see that Olive’s charges have been applied.

Task 2 – Create an invoice for Rose Budd’s account.

Generate an Invoice for Rose Budd
Examine the invoice to see that Rose’s charges have been applied.

Task 3 – Create an invoice for Barry White’s account.

Generate an Invoice for Barry White
Examine the invoice to see that Barry’s charges have been applied.

Task 4 – After running BIP for all accounts, run BIF to generate a bill image.

Generate a Bill Image for each

REVIEW INVOICE GENERATION

Review Invoice Generation

- Use Operations Center interface to generate invoices

- ✓ Use Schedule Process screen to schedule *Kenan BP* processes:
BIP calculates new charges and generates invoice
BIF formats the bill image
 - ✓ Use Logs screen to verify the BIP and BIF processes and check errors

- Use Customer Center to view invoices

ESG



REVIEW KENAN BP ENTITIES

Review Kenan BP Entities

- Listed 5 steps to implement a billing system
- Using realistic business requirements:
 - ✓ Identified Kenan BP data entities
 - ✓ Modeled a Kenan BP account structure
 - ✓ Modeled a Kenan BP package
- Used Customer Center to create accounts and associate services with a customer
- Used Operations Center via web-browser to generate invoices

ESG



For More Information

In-depth topics are covered in related Kenan BP courses:

- Payments Processing (LBX, CPM, RTCC, EFT, and TIP)
- Journals Processing
- System Administration

Consult the Technical Reference manual for details.

Section

4

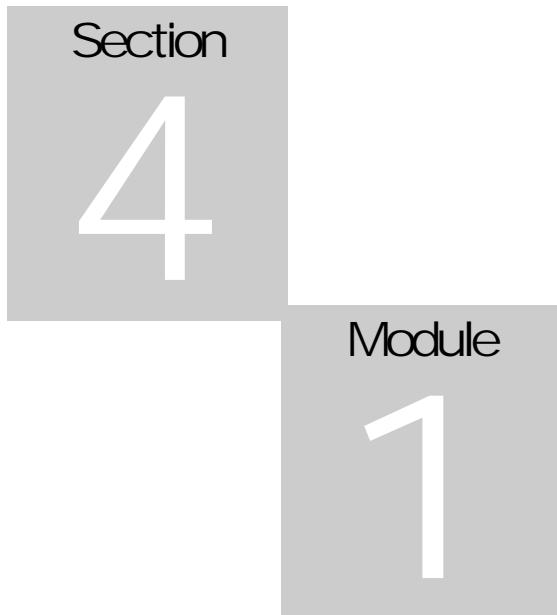
4. CONFIGURE AND TEST KENAN BP DATA ENTITIES

SECTION OBJECTIVES

By the end of this section, you will be able to:

- Use Configurator (Kenan BP's table configuration environment) to configure data entities.
- List three primary Kenan BP reference documents and describe the details available in each.

Now you'll have a chance to get extensive practice building the data entities you've learned.



4.1. USE THE KENAN BP CONFIGURATOR

MODULE OBJECTIVES

By the end of this module, you will be able to:

- Launch the Configurator and:
 - Navigate key menu options
 - View the Configurator in object mode and in table mode
- List primary information available from reference documents:
 1. Database Reference – Catalog and Customer Tables
 2. Guide to Products, Rates and Discounts
 3. Common Configuration Tasks

You can see that we'll be focusing on the skills for configuring tables using the Configurator tool. You will probably find this easier than using Structured Query Language (SQL), but that's always an option.

The second focus for this module will help you identify the resources and references you'll use on the job. There is an extensive set of online help and documentation that provide guidance as needed.

CONFIGURATOR OVERVIEW

Configurator Overview

- Windows NT, 2000, or XP interface to configurable tables
- Provides workflow wizards to support new users
- Allows users to view/edit data in:
 - ✓ Object mode to get guidance on configuration steps
 - ✓ Table mode for more experienced users who know the steps

ESG
COMVERSE

Use the Configurator to create, modify, delete, and view records in all configurable tables in the Kenan BP database. This includes configuration tasks related to provisioning, billing ops, site setup, and administration.

Configurator Supports Workflows	<p>Workflows are wizard-like tools that walk users through the configuration process. Workflows <i>note milestones</i> that provide info about the tasks and <i>presentation milestones</i> that organize tasks in correct sequence. Double-clicking on a presentation milestone launches an object mode window. You can customize your own workflows.</p>
View Configurator in Object Mode	<p>Object mode organizes database tables into <i>logical groupings</i>. Object mode uses tabbed windows and displays only one database record at a time. Object mode displays questions and labels that are more meaningful than table names to novice users. Value fields display text descriptions instead of numeric values.</p>
View Configurator in Table Mode	<p>Table mode displays all table records at once in <i>spreadsheet format</i> with field names and numeric values. When you select a record from the table the information for that record is displayed in a tabbed window below the spreadsheet. Often, the numeric values displayed on the spreadsheet are translated to their corresponding text values.</p>

STEPS: LAUNCH CONFIGURATOR

To Launch Configurator: Your instructor will provide the information to fill the blanks below.

1. Click Start> Programs> Kenan Configurator 1.7.1> Configurator.
The Configurator window appears.
2. Click File> Open.
The Open window appears.
3. Select Database _____ and click Open.
The Select Data Source window appears.
4. Click on the Machine Data Source tab.
5. Select the Data Source Name _____, and click OK.
The login screen appears.
6. Enter the server name _____
7. Enter the username and password:
Username: _____
Password: _____
8. Click OK.
The Configurator window is open and you'll see a folder for Objects and a folder for Tables.

STEPS: USE CONFIGURATOR IN OBJECT MODE

**View
Records**

1. Open the tree to Objects> Functional Groups.
Functional groups display.
2. Open the applicable functional group folder.
Related table objects display.
3. Open the applicable table object folder.
Records display.
4. Double click the instance you wish to view.
The instance opens.
5. To view different information, click the tabs along the top of the instance window.
6. To close the window, click the x button in the upper right hand corner.

**Create a New
Instance**

1. Right click the applicable table object; select Insert Instance.
A blank instance opens.
2. Enter data in all fields.
3. Click Save and Close.
4. Respond appropriately to prompt(s).
A Save Successful message box appears.
5. Click OK.

**Clone an
Instance**

1. Right click the instance you wish to copy and select Clone Instance.
The instance opens.
2. Modify the original data for your new instance.
3. Click Save and Close.
4. Respond appropriately to prompt(s).
A Save Successful message box appears.
5. Click OK.

Continued on next page

STEPS: USE CONFIGURATOR IN OBJECT MODE (CONTINUED)

- Modify an Instance**
1. Double click the the instance you wish to modify.
The instance opens.
 2. Modify the data that should be changed.
 3. Click Save and Close.
 4. Respond appropriately to prompt(s).
A Save Successful message box appears.
 5. Click OK.
NOTE: Some fields contain rules and triggers to verify that the data entered is correct. If the data is incorrect, you are prompted with an error message.
- Delete an Instance**
- 
- CAUTION:** Be careful when deleting rows, especially rows that contain fields used by other tables. This can cause errors for other modules and interfaces.
1. Right click the instance you wish to delete and select Delete Instance.
 2. Respond appropriately to prompt(s).
A Delete Successful message box appears.
 3. Click OK.
- View Field Names and Table Names in Object Mode**
- For troubleshooting and when using Kenan BP documentation, you need to view field names. View field names in two ways:
1. Once an object is open, hold your mouse pointer over an entry blank.
 2. In the Preferences box (accessible from the File menu) toggle the checkbox for the Show DB Field Names option.
- To view table names:
1. Right click on any object.
 2. Select Presentation > Properties from the drop down menu.

STEPS: USE CONFIGURATOR IN TABLE MODE

Launch Online Help Press the F1 key when you have a question about a field or screen. This launches the relevant section of the **Database Reference** documentation.

- View Tables**
1. Open the folder tree to Tables.
 2. Navigate from the Tables folder to the applicable table group.
Tables in that group display.
 3. Double click the table you wish to view.
The table opens.

4. To close the window, click the x button in the upper right hand corner.

- Create a Row**
1. Double click the applicable table.
The table opens.

2. Click the New Row button.
All fields clear.
3. Enter data in all fields.
4. Click Save Row.
5. Respond appropriately to prompt(s).
6. Save changes and close the table when finished.

- Clone a Row**
1. Double click the applicable table and select the row to copy.
Fields display values of selected row.

2. Click the Clone Row button.
A copy of the row displays.
3. Modify the original data for your new row.
REMEMBER to edit all field entries to match your new item.
4. Click Save Row.
5. Respond appropriately to prompt(s).
6. Save changes and close the table when finished.

STEPS: USE CONFIGURATOR IN TABLE MODE (CONTINUED)

Modify a Row

1. Double click the applicable table and select the row you wish to modify.
Fields display values of selected row.
2. Modify the fields you wish to change.
3. Click Save Row.
4. Respond appropriately to prompt(s).
5. Save changes and close the table when finished.

NOTE: Some fields contain rules and triggers to verify that the data entered is correct. If the data is incorrect, you are prompted with an error message.

Delete a Row



CAUTION: Be careful when deleting rows, especially rows that contain fields used by other tables. This can cause errors for other modules and interfaces.

1. Double click the applicable table and select the row you wish to delete.
Fields display values of selected row.
2. Click Delete Row.
3. Respond appropriately to prompt(s).
4. Save changes and close the table when finished.

KENAN BP REFERENCE DOCUMENTS

Kenan BP Reference Documents

- **Database Reference Administration, Vol. 1 and Vol. 2**
- **Database Reference – Catalog and Customer Tables**
- **Guide to Products, Rates, and Discounts**
- **Common Configuration Tasks**

ESG


Selected Kenan
BP 11.7
Documents,

- **Billing Operations Guide** - Operation and maintenance instructions for modules.
- **Customer Center User Guide** - Task-oriented instructions for using Customer Center.
- **Database Reference- Administration Tables, Vol. 1 and Vol. 2** - Detailed description of fields and tables in the Admin database.
- **Database Reference –Catalog and Customer Tables** - Detailed description of fields and tables in the Catalog and Customer databases.
- **Operations Center Guide** - Instructions for using Operations Center.
- **Order Services Guide** - Instructions for using the Orders Services component for the generation, management, and fulfillment of orders and sub-orders.
- **System Administrator Guide** - Installation, configuration, and maintenance instructions for the Kenan BP system.
- **Technical Reference** - Detailed descriptions of inputs, outputs, and processing flow of all modules.

Continued on next page

EXERCISE: EXPLORE REFERENCE DOCUMENTATION

Task 1 – Explore Configurator 1. In table mode, open General Tables>DESCRIPTIONS. What field names do you see listed for each row of data? Close the table.

2. Open Objects>Functional Groups>Products, Rates, and Discounts>Recurring Charges> Descriptions. Double click Dial Tone. Hold your mouse pointer over the white value fields. Do the fields that you listed in step 1 appear?

Task 2 – Database Reference Administration Tables (Volumes 1 and 2)

1. What is the purpose of the PRODUCT_ELEMENTS table?
2. In the EMF_CONFIGURATION table, what is the definition of the emf_config_id field?
3. In the RATE_RC table, can you populate a Null value in element_id?
4. In the NRC_TRANS_DESCR table, what are some of the triggers?
5. In the same table, what are acceptable values for the trigger_level field?
6. Which field(s) must be unique? Which field(s) can contain a value of null?

Task 3 – Common Configuration Tasks and Module Configuration Guide

1. Where are the system parameters documented?
2. List three system parameters and their functions.

REVIEW CONFIGURATOR AND REFERENCE DOCUMENTATION

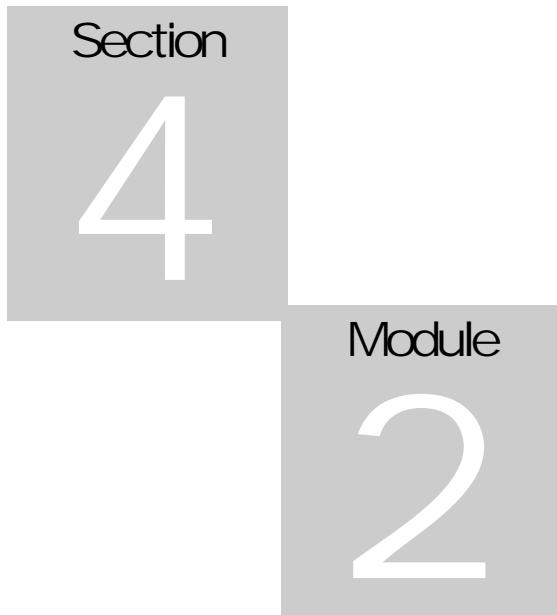
Review Configurator and Reference Documentation

- Use Configurator interface to create, modify, or delete configurable entities
- Use Configurator in two modes:
 - ✓ Object mode displays data in word format
 - ✓ Table mode displays data in field names and values
- Use reference documentation

ESG



NOTES



4.2. CONFIGURE A SERVICE TYPE

MODULE OBJECTIVES

By the end of this module, you will be able to:

- Use Configurator to:
 - Configure basic characteristics of a service type
 - Define more advanced characteristics such as eligibility restrictions
- Use Customer Center to assign the new service type to a customer account

SERVICE TYPE

Service Type

- Defines types of network services
- Subscriptions are associated to a service type

REMINDER:
Subscriptions (services) are a customer's unique assignment of a Service Type

ESG
COMVERSE

Service Types Define Network Services	<p>Service types are the network services offered by your business. Service examples include Cable Line, Digital Cable Line, Telephone Line, Mobile Telephone, and Internet Access.</p>
Subscriptions are Associated to a Service Type	<p>When adding a service/subscription to an account, the CSR selects the appropriate service type from a configurable list. Once selected, the service type is associated with the customer's subscription, owned by the customer's account. In other words, the subscription (service) is the customer's unique assignment of a service type. For example:</p> <ul style="list-style-type: none"> ▪ Telephone Line service type is added to the customer's account and becomes the customer's Telephone Line subscription. A unique internal ID as well as an external ID (a phone number in this case) are assigned to identify it. ▪ Cable Line service type is added to the customer's account and becomes the customer's Cable Line subscription. A unique internal ID as well as an external ID (a cable box or room name) are assigned to identify it.

Remember that a subscription does not represent a charge entity. Rather, it represents a mechanism through which a CSR can provision an RC or any other entity.

SERVICE TYPE FUNCTIONALITY

Service Type Functionality

- Ensure appropriate allocation of charges that match the network
- Assign different rates for the same product based on assigned network
- Support rating according to usage

ESG



Ensure Appropriate Allocation of Charges

Use service type to be sure that charges match the network that provided the services. If you restrict products to specific networks, for example, a CSR can provision:

- Roaming charges to a mobile telephone service but not to a landline telephone service.
- Cable access to a cable line but not to a telephony product.

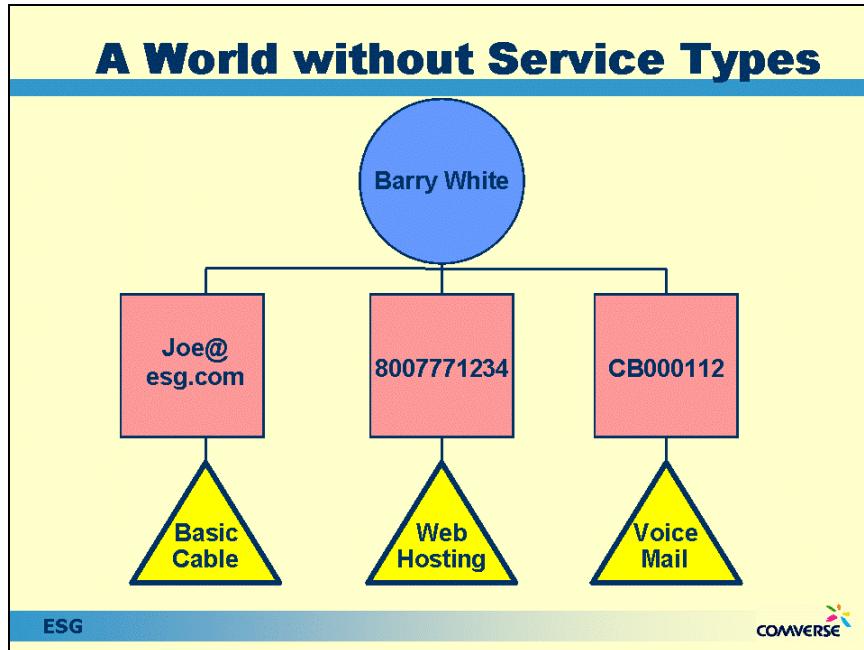
Assign Different Rates for the Same Product

Support provisioning of caller ID to either landline or mobile phone service type. You can charge a different rate for caller ID based on service type.

Support Rate Usage

Use service type as a factor when rating usage. For example, charge 7 cents/minute for a call via a landline service type and 12 cents/minute for a call via a wireless service type.

A WORLD WITHOUT SERVICE TYPES



- Consider the Role of Service Types**
- What could happen without service types?
 - What is the business goal of service types?
 - How might you achieve this goal through service type configuration?

EXERCISE: SERVICE TYPE PRACTICE

The instructor will help the class work through a fictitious product as an example. Your mission:

1. Give the service type a name and enter your choices in NAME_TABLE.

ID	Name

2. Name the pieces by brainstorming the varieties of services available for this product. Agree on categories and fill in the tables.

ATTRIBUTE _____

ATTRIBUTE _____

ID	Name (text)

ID	Name (text)

ATTRIBUTE _____

ID	Name (text)

EXERCISE: SERVICE TYPE PRACTICE (CONTINUED)

Discuss what the JOIN_TOGETHER_TABLE will look like. Fill it in with your team's ideas.

JOIN_TOGETHER_TABLE

SERVICE ATTRIBUTES AS ELIGIBILITY KEYS

Let's use an example to illustrate. A company offers 3 types of service: Landline Telephone, Mobile Telephone, and Cable Television. They need to define service types so that:

- Telephony charges can only be provisioned to the Landline Telephone or Mobile Telephone services.
- Cable TV charges can only be provisioned to Cable Television services.
- Some telephone charges can only be provisioned to Mobile Telephone subscribers.

To do this, they have configured service types like this:

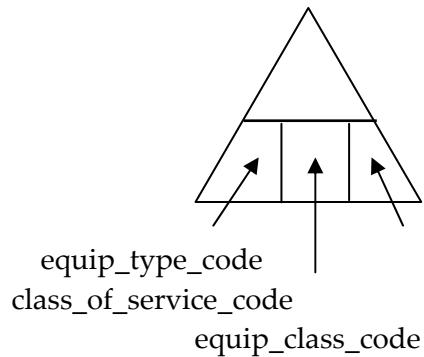
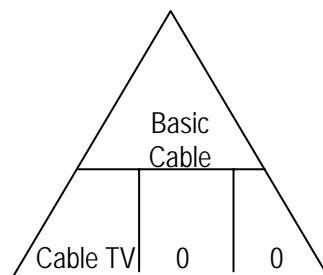
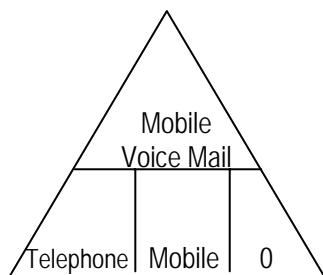
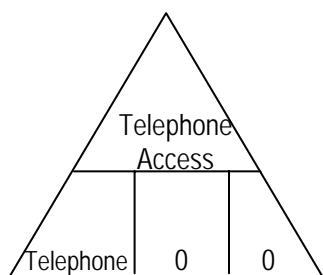
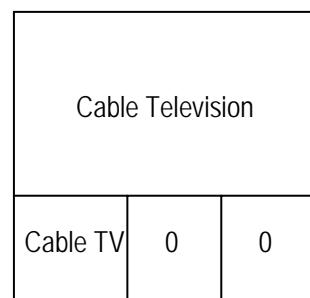
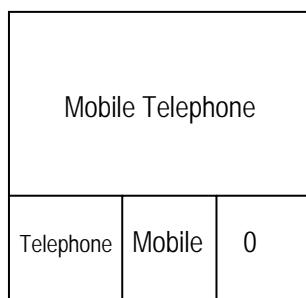
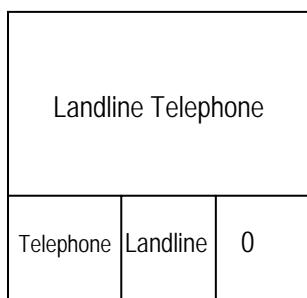
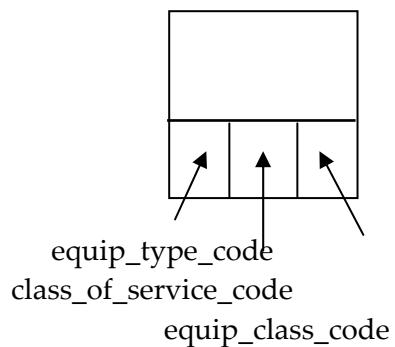
emf_config_id	equip_type_code	equip_class_code	class_of_service
Landline Telephone	Telephone	Landline	Null
Mobile Telephone	Telephone	Mobile	Null
Cable Television	Cable TV	Null	Null

When RCs are configured, they can be limited using the 3 basic service type attributes as eligibility keys. The RCs may be configured like this:

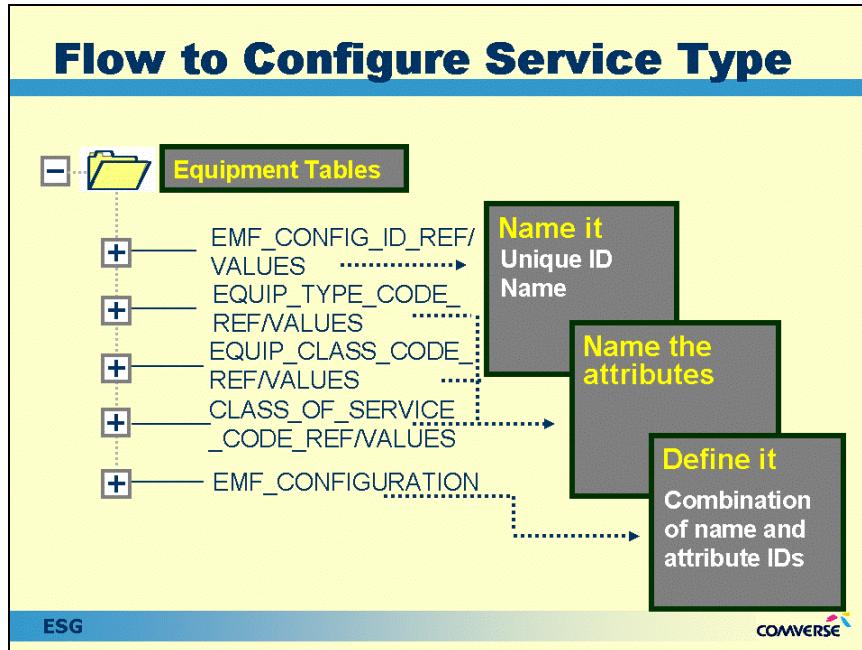
element_id	equip_type_code	equip_class_code	class_of_service
Telephone Access	Telephone	0	0
Mobile Voice Mail	Telephone	Mobile	0
Basic Cable	Cable TV	0	0

- This configuration limits Telephone Access to subscriptions where equip_type_code value = Telephone.
- The 0 or null values in equip_class_code and class_of_service mean that these field values are *not* used to limit eligibility.
- Mobile Voice Mail is limited to subscriptions where equip_type_code = Telephone *and* equip_class_code = Mobile. Both attributes must be present in the subscription for the CSR to be able to provision the RC.
 - The 0 value in class_of_service means that this field value is *not* used to limit eligibility.
- Basic Cable is limited to subscriptions where equip_type_code = Cable, ensuring its eligibility for Cable Television subscriptions only. This RC is not eligible for provisioning to either Telephone service type.

DIAGRAM SERVICE ATTRIBUTES AS ELIGIBILITY KEYS

Recurring Charge**Service Type**

FLOW TO CONFIGURE SERVICE TYPE



Notes on Kenan BP Tables and Fields being Configured by this Flow:

Service Type Tables

- EMF_CONFIG_ID_REF and EMF_CONFIG_ID_VALUES are the naming tables for the service type. For example, Digital Cell Phone and Landline Phone are two service types that are populated here.
- EMF_CONFIGURATION combines all previous table values.

Attribute Tables for Eligibility

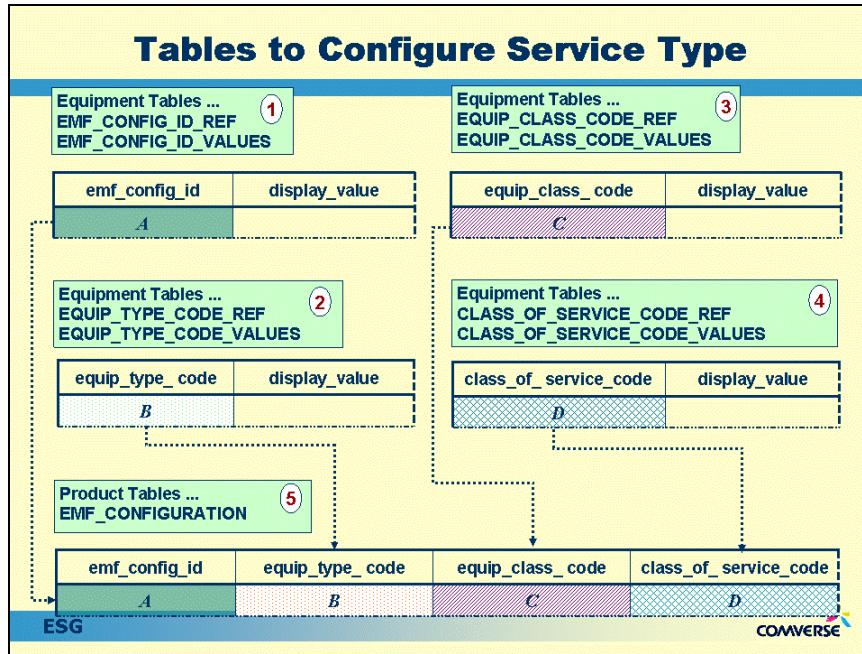
These tables enable you to configure eligibility attributes:

- EQUIP_TYPE_CODE_REF and EQUIP_TYPE_CODE_VALUES
- EQUIP_CLASS_CODE_REF and EQUIP_CLASS_CODE_VALUES
- CLASS_OF_SERVICE_CODE_REF and CLASS_OF_SERVICE_CODE_VALUES

Note

There is no hierarchy associated with the three attribute tables. However, you might find it helpful to stick to the same order for all your service type configuration.

TABLES TO CONFIGURE SERVICE TYPES



Here is the flow if you use Configurator in table mode.

NOTE: Populate the first 4 tables in any order. You cannot populate EMF_CONFIGURATION until you have the other values configured.

STEPS: NAME SERVICE TYPE AND CREATE ATTRIBUTES

Open Configurator (if not already opened)

- Name the Service Type**
1. Open Equipment Tables>EMF_CONFIG_ID_REF.
To create a new entry, either select an existing entry with Clone Row, or create a brand-new entry with New Row.
 2. Modify original data or insert new date, then click Save Row. Click Yes or OK to accept save prompts. Click OK to close the instance after data is saved.
 5. Repeat this process for EMF_CONFIG_ID_VALUES.
-

- Create Attributes for the Service Type (Optional)**
1. Open Equipment Tables> EQUIP_TYPE_CODE_REF.
 2. To create a new entry, either select an existing entry with Clone Row, or create a brand-new entry with New Row.
 3. Modify original data or insert new date, then click Save Row.
 4. Click Yes or OK to accept save prompts.
 5. Click OK to close the instance after data is saved.
 6. Repeat this process for EQUIP_TYPE_CODE_VALUES.
 7. Repeat the same processes for Equipment Tables:
EQUIP_CLASS_CODE_REF, EQUIP_CLASS_CODE_VALUES,
CLASS_OF_SERVICE_CODE_REF, and
CLASS_OF_SERVICE_CODE_VALUES.

STEPS: BUILD AND TEST A SERVICE TYPE

Build the Service Type

1. Open Equipment tables:
EMF_CONFIGURATION.
 2. To create a new entry, either select an existing entry with Clone Row, or create a brand-new entry with New Row.
 3. Modify original data or insert new date, then click Save Row.
 4. Modify original data or insert new date, then click the Save and Close button.
 5. Click Yes or OK to accept the save prompts.
 6. Click OK to close the instance.
-

Test the Service Type

1. Launch Customer Center (if it is not already open).
2. Create a new account via New Customer Acquisition.
3. Under Default Information, change the Effective date to 1/1/01 and select Monthly billing frequency.
4. We won't select any account elements from this window. Click Next.
5. In the Product Delivery window, scroll through the Services pane until you find your service type.
6. Add this service to the account and associate the product to it.
7. Confirm the order.

EXERCISE: CONFIGURE A TELEPHONY SERVICE TYPE

1. List the service types needed for the ABC's Telephony offerings.
-

How many of the optional tables will you use? Why?

2. Configure the service types, basing your EMF configurations and Configuration IDs on the existing service type Telephone Line. As you work, record your values in the charts provided. Note that the tables printed below contain information from **both** the _REF tables and the _VALUES tables. In Configurator and the database, the _REF and _VALUES tables **are not combined** as they appear to be here.
3. Once configured, test each service type. If the new subscription will not save successfully, return to step 2 to check your configuration.

EMF_CONFIG_ID_REF/VALUES:

Field Name	Value	Value
emf_config_id		
default_external_id_type		
language_code		
display_value		

EQUIP_TYPE_CODE_REF/VALUES:

Field Name	Value	Value
equip_type_code		
language_code		
display_value		

EQUIP_CLASS_CODE_REF/VALUES:

Field Name	Value	Value
equip_class_code		
language_code		
display_value		

CLASS_OF_SERVICE_CODE_REF/VALUES:

Field Name	Value	Value
class_of_service_code		
language_code		
display_value		

EMF_CONFIGURATION:

Field Name	Value	Value
emf_config_id		
emf_type		
equip_type_code		
equip_class_code		
class_of_service_code		
rate_class		
active_dt	01/01/90	01/01/90
inactive_dt		

EXERCISE: DEFINE TELEPHONY SERVICE TYPES

1. Imagine that ABC Communications wanted to offer:
 - Analog Landline Telephone
 - Digital Landline Telephone
 - Analog Mobile Telephone
 - Digital Mobile Telephone
2. Which of the three optional tables would you use? How many records would you enter in each? What would the records define?
 - Equipment Type Code - EQUIP_TYPE_CODE_REF
 - Class Code - EQUIP_CLASS_CODE_REF
 - Class of Service Code - CLASS_OF_SERVICE_CODE_REF
3. How many records would you have in Configuration IDs - EMF_CONFIG_ID_REF? What would the rows define?
4. How many records would you have in EMF Configurations - EMF_CONFIGURATION? What would the records define?

REVIEW SERVICE TYPE CONFIGURATION

Review Service Type Config

- **Configure the service type:**
 - ✓ What are the steps?
 - ✓ Where do you complete steps?
- **Test the service type:**
 - ✓ What are the steps?
 - ✓ Where do you complete steps?
- **Lessons learned**

ESG



**Configure
the Service
Type:**

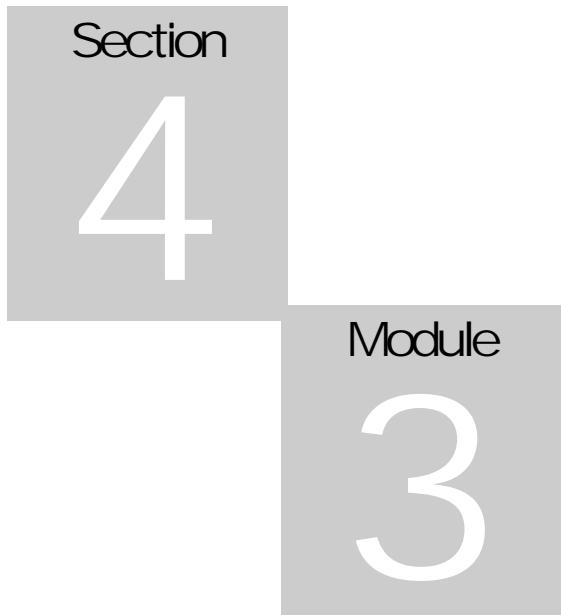
What are the steps? Where do you complete these steps?

**Test the
Service
Type:**

What are the steps? Where do you complete these steps?

**Lessons
Learned:**

**For More
Information:** Advanced concepts are covered in other ESG Kenan BP courses. Also consult the **Guide to Products, Rates & Discounts, Database Reference Administration Vol. 1 and 2, Common Configuration Tasks, and Billing Operations Guide.**



4.3. CONFIGURE A RECURRING CHARGE

MODULE OBJECTIVES

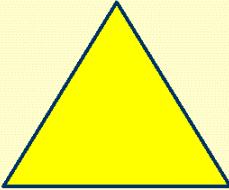
By the end of this module, you'll be able to:

- Identify the RCs in the case study for ABC Communications
- Configure the RCs in Configurator
- Provision the RCs in Customer Center
- Generate an invoice to test the RCs

RC REVIEW

RC Review

- What is an RC?**
- What are the attributes of an RC?**
- What are examples of RCs?**



ESG 

Review
Details on
RCs

1. What is a recurring charge?
2. List some attributes of an RC.
3. List some examples of RCs.

PRODUCT ELIGIBILITY KEYS

Product Eligibility Keys

- **PRODUCT_ELEMENTS table**
- **Relevant fields:**
 - ✓ equip_type_code
 - ✓ equip_class_code
 - ✓ class_of_service_code
 - ✓ level_code

ESG

Eligibility keys prevent this → Dial Tone

COMVERSE

Eligibility The graphic is an example of what could happen if eligibility keys are NOT used.

To prevent a CSR from provisioning Dial Tone to a Cable subscription, one of three attribute must be specified in PRODUCT_ELEMENTS:

- equip_type_code
- equip_class_code
- class_of_service_code

Because these attributes are associated to a service type, only subscription level RCs can use these eligibility keys.

Another eligibility key is level_code, which determines whether the RC can be provisioned at the account or subscription level.

NOTE: If no eligibility is used, the RC can be provisioned to any service/subscription.

INTRODUCTION TO RATING

Introduction to Rating



To calculate a customer's bill, Kenan BP must associate a rate with each charge. The process is called **rating**.

- ✓ Rates are based on attributes or characteristics**
- ✓ The rating process uses Kenan BP fields known as **rating keys****
- ✓ Rating keys are *mandatory* or *optional***

ESG
COMVERSE

What is Rating?

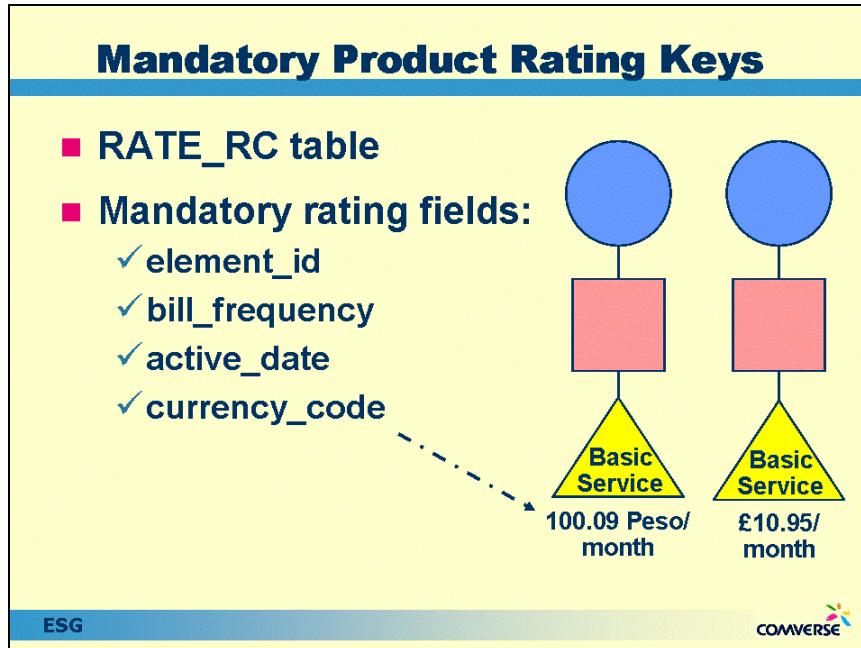
Rating is the process of associating a rate with a charge type. A rate that is associated to a charge type may vary based on attributes of an account or subscription. These attributes are known as **rating keys**.

Rating Keys

Rating keys provide flexibility in the way that charge types are rated. Rating keys allow multiple rates for the same charge type.

For example, the RC for Voice Mail can be \$10.00 a month for residential customers and \$8.00 a month for business customers.

MANDATORY PRODUCT RATING KEYS



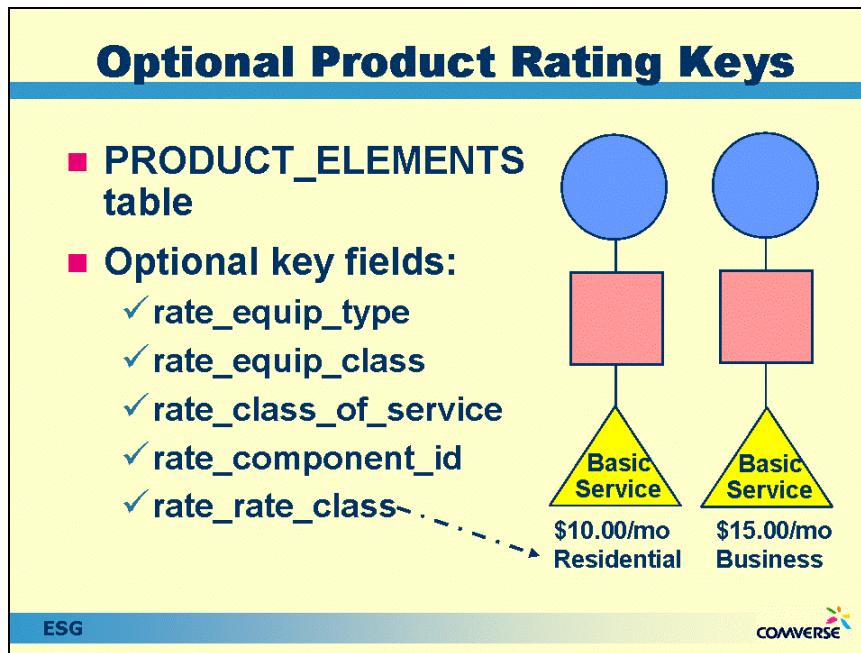
RATE_RC Table Keys

Mandatory keys in this table are:

- **element_id** -- the unique identifier from the PRODUCT_ELEMENTS table
- **bill_frequency** -- the billing frequency for the RC rate. A single RC can be rated differently for each bill frequency.
- **active_date** -- the date that the RC rate becomes active. For example, you could have a rate of \$10.00 per month for Dial Tone active January 1, 2001 and inactive on December 31, 2001. The rate for Dial Tone becomes \$10.50 per month effective January 1, 2002.
- **currency_code** -- the currency type for the RC. A single RC can be rated in multiple currencies.

NOTE: Active dates and inactive dates must not overlap.

OPTIONAL PRODUCT RATING KEYS



Rating by Service Type Attributes

The three service type attributes can also be used as rating keys. This means that for an RC, the rate could change based on `equip_type_code`, `equip_class_code` and/or `class_of_service_code` values.

The rate key fields for these attributes in `PRODUCT_ELEMENTS` are:

- `rate_equip_type`
- `rate_equip_class`
- `rate_class_of_service`

Rating by Rate Class

Rate class can be an attribute of the account and/or subscription. Examples of rate class include Residential and Business; Premium and Standard; or Gold, Silver and Bronze. An account level RC can be rated by the account's rate class, while a subscription level RC can be rated by the subscription's rate class.
The rate key field for this attribute is `rate_rate_class`.

Rating by Component

You can also rate an RC differently when it is a member of a package component. This allows the RC to have rates inside a package that differ from the ala carte rate. For example, HBO can be offered in a package for \$5.95 per month, but if purchased ala carte the price is \$8.00 per month.
The rate key field for this attribute is `rate_component_id`.

SERVICE ATTRIBUTES AS RATING KEYS

Each service attribute has an associated rating field called **rating key**. Enter a value of 1 in the associated field to activate the rating key. If value = 0, the rating key has not been activated.

For example, say that you want to rate Telephone Access differently for Mobile and Landline customers. Enter a value of 1 in the rating field associated with Mobile and Landline service type attributes.

In this example, Mobile and Landline have been defined in equip_class_code. The associated rating field for equip_class_code is **rate_equip_class**.

PRODUCT_ELEMENTS (for configuring RCs)

element_id	equip_type_code	rate_equip_type	equip_class_code	rate_equip_class	class_of_service_code	rate_class_of_service
Telephone Access	Telephone	0	0	1	0	0

The value of 1 in **rate_equip_class** means that Kenan BP uses the associated service attribute (equip_class_code) as a rating key. This means that there will be more than one row in the RATE_RC table. You need to define a rate for this RC for each possible value of equip_class_code. This will implement one Monthly Access RC rate for Mobile and one rate for Landline.

The rate table shows configuration for this example

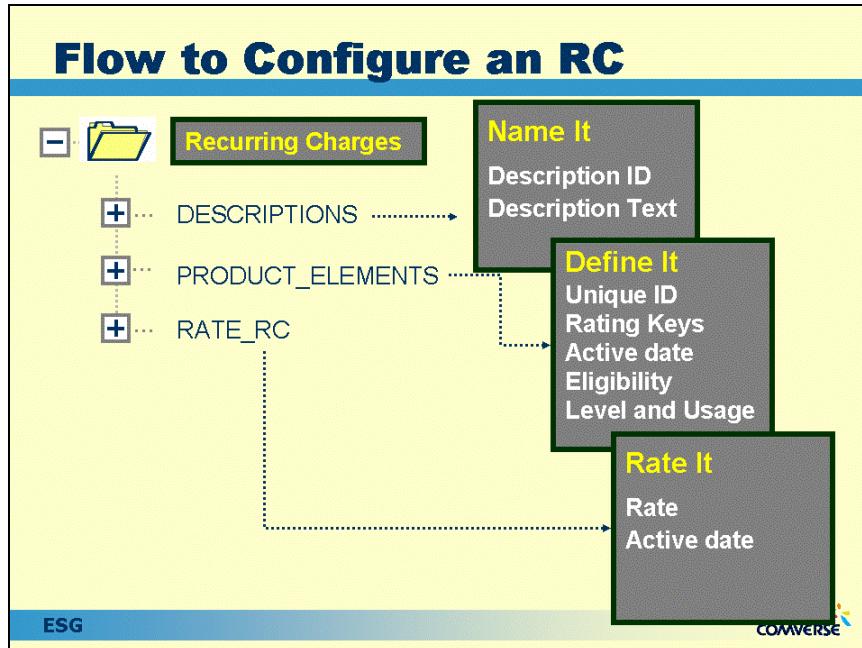
RATE_RC (for configuring RC rates)

element_id	equip_type_code	equip_class_code	class_of_service_code	rate
Telephone Access	0	Mobile	0	\$14.95
Telephone Access	0	Landline	0	\$9.95

FYI: Here are several attribute fields and their rating key fields:

- etc = equip_type_code → rate_equip_type
- ecc = equip_class_code → rate_equip_class
- cos = class_of_service_code → rate_class_of_service
- rclass = rate class → rate_rate_class

FLOW TO CONFIGURE AN RC



Notes on Kenan BP Tables and Fields being Configured by this Flow

DESCRIPTIONS Create a name for an entity in Kenan BP.

PRODUCT_ELEMENTS Create a unique identifier for an RC and define its basic attributes, such as eligibility, level, and how the RC will be rated.

RATE_RC Define rates for an RC and mandatory and optional rating keys.

TABLES TO CONFIGURE RCs

Tables to Configure an RC							
General Tables: DESCRIPTIONS ①							
description_code		description_text					
F							
Product Tables: PRODUCT_ELEMENTS ②							
element_id	description_code	equip_type_code	rate_equip_type	equip_class_code	rate_equip_class	class_of_service_code	rate_class_of_service
G	F	H			I	J	
date_active	date_inactive	bill_in_arrears	level_code	rate_rate_class	currency_code		
Rating Tables: RATE_RC ③							
rate_class	element_id	component_id	equip_type_code	equip_class_code	class_of_service_code	currency_code	rate
ESG	G			I			

Note: Not all fields are shown above.

Here is the flow if you use Configurator in table mode.

PRODUCT_ELEMENTS Rating keys are activated by placing a 1 in the rate key field. If a rating key is not used, the field value = 0.

RATE_RC If a rating key in PRODUCT_ELEMENTS is turned on (value= 1), you must populate the corresponding field in RATE_RC. If a rate key is turned off (PRODUCT_ELEMENTS field = 0), the corresponding field in RATE_RC must = 0.

If you don't follow this rule, you will get errors when you create invoices.

Quick Reference Chart	
If this field value is 1...	this field has a value.
If this field value is 0...	this field must be 0.
PRODUCT_ELEMENTS	RATE_RC
rate_rate_class	→ rate_class
rate_component_id	→ component_id
rate_equip_type	→ equip_type_code
rate_equip_class	→ equip_class_code
rate_class_of_service	→ class_of_service_code

STEPS: NAME AND DEFINE AN RC

Open Configurator (if not already opened)

- Name the RC**
1. Open Tables>General Tables.
 2. Double-click DESCRIPTIONS and select New Row. Or select an existing line and click Clone Row
 3. Modify original data or insert new date, then click Save Row.
 4. Click Yes or OK to accept the save prompts. Click OK to close the instance.
-

- Define the RC**
1. Open Tables>Product Tables.
 2. Double-click PRODUCT_ELEMENTS and select New Row. Or select an existing line and click Clone Row
 3. Modify original data or insert new date, then click Save Row.
 4. Click Yes or OK to accept the save prompts. Click OK to close the instance.

STEPS: RATE AND TEST AN RC

- Rate the RC**
1. Open Tables>Product Tables.
 2. Double-click RATE_RC and select New Row. Or select an existing line and click Clone Row
 3. Modify original data or insert new date, then click Save Row.
 4. Click Yes or OK to accept the save prompts. Click OK to close the instance.
-

- Test RC Configuration**
1. Create a new account with an a la carte product, and backdate the account to 1/1/01.
 2. Associate the product to a service. Use a unique subscription number. *If the service type is not listed, check the level and eligibility keys of the RC.*
 3. If the RC has been configured correctly, the Quote displays the rate configured in RATE_RC.
If you receive an error, the RC is configured incorrectly. Return to Configurator to troubleshoot the error.
 4. Save the RC.
 5. Run BIP and BIF to verify that the correct rate appears on the invoice.

EXERCISE: CONFIGURE RCs FOR ABC COMMUNICATIONS

1. List RCs needed for the ABC Communications Telephony Offerings.

2. Configure the first RC that you listed, basing the new configuration on existing configuration for Dial Tone. As you work, record your values in the chart on the next page.
3. Once configured, test the RC.
If the RC cannot be provisioned successfully, return to step 2 to check your configuration.
4. When the RC is provisioned successfully, repeat steps 2 and 3 for the remaining RCs.

Questions for Discussion

1. How did you make sure that the RCs would be provisioned only to telephone networks?
2. How did you make sure that one of the RCs would be provisioned only to mobile telephone networks?
3. If ABC Communications decided to offer Enhanced Call Waiting only to customers having a landline telephone network, how would you change your configuration?
4. If you wanted the Monthly Access rate to differ for landline telephony and mobile telephony networks, what change would you make to PRODUCT_ELEMENTS?

What change would you make to RATE_RC?

5. If you wanted the Enhanced Call Waiting rate to differ for standard and premium accounts as well as for landline and mobile networks, what change would you make to PRODUCT_ELEMENTS?

What change would you make to RATE_RC?

EXERCISE: PLAN TABLES TO CONFIGURE AN RC

DESCRIPTIONS:

Field Name	Value	Value	Value
description_code			
description_text			

PRODUCT_ELEMENTS:

Field Name	Value	Value	Value
element_id			
description_code			
product_line_id			
provider_id			
equip_type_code			
rate_equip_type			
equip_class_code			
rate_equip_class			
class_of_service_code			
rate_class_of_service			
type_group_usage			
date_active	01/01/90	01/01/90	01/01/90
date_inactive			
bill_in_arrears			
level_code			
contract_use_code			
activation_code			
termination_code			
auto_credit_code			
rate_component_id			
rate_rate_class			
rate_zone			
advance_periods			
currency_code			

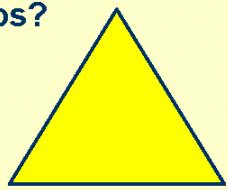
RATE_RC:

Field Name	Value	Value	Value	Value
rate_class				
element_id				
component_id				
equip_type_code				
equip_class_code				
class_of_service_code				
type_id_rc				
billing_frequency				
currency_code				
rate				
active_date	01/01/90	01/01/90	01/01/90	01/01/90
inactive_date				

REVIEW RC CONFIGURATION

Review RC Configuration

- Configure the RC:**
 - ✓ What are the steps?
 - ✓ Where do you complete steps?
- Test the RC:**
 - ✓ What are the steps?
 - ✓ Where do you complete steps?
- Lessons learned and troubleshooting tips**



ESG
COMVERSE

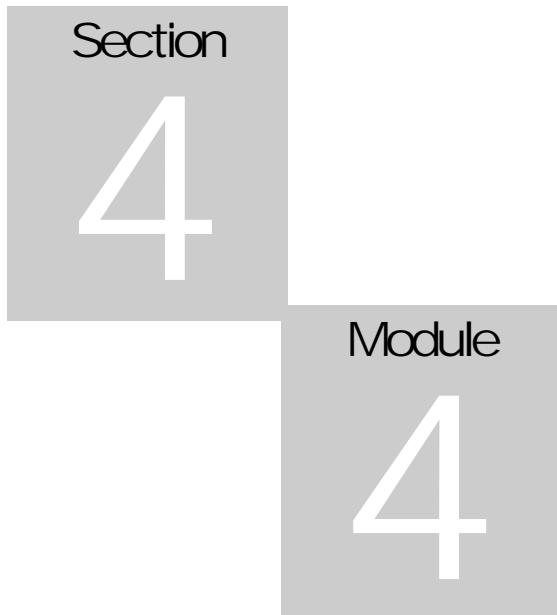
Configure the RC: What are the steps? Where do you complete these steps?

Test the RC: What are the steps? Where do you complete these steps?

Lessons Learned:

For More Information: Advanced concepts are covered in other ESG Kenan BP courses. Also consult the **Guide to Products, Rates & Discounts, Database Reference Administration Vol. 1 and 2, Common Configuration Tasks, and Billing Operations Guide.**

NOTES



4.4. CONFIGURE A NON-RECURRING CHARGE

MODULE OBJECTIVES

By the end of this module, you will be able to:

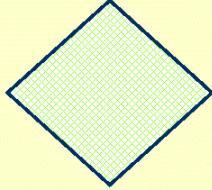
- Identify the NRCs in the case study for ABC Communications
- Configure the NRCs in the Configurator
- Provision the NRCs in Customer Center
- Generate an invoice to test the NRCs

You should recognize all of the steps for this exercise, as this is the process we followed for configuring and testing RCs.

REVIEW NRCs

Review NRCs

- What is an NRC?
- What are the attributes of an NRC?
- What are examples of an NRC?

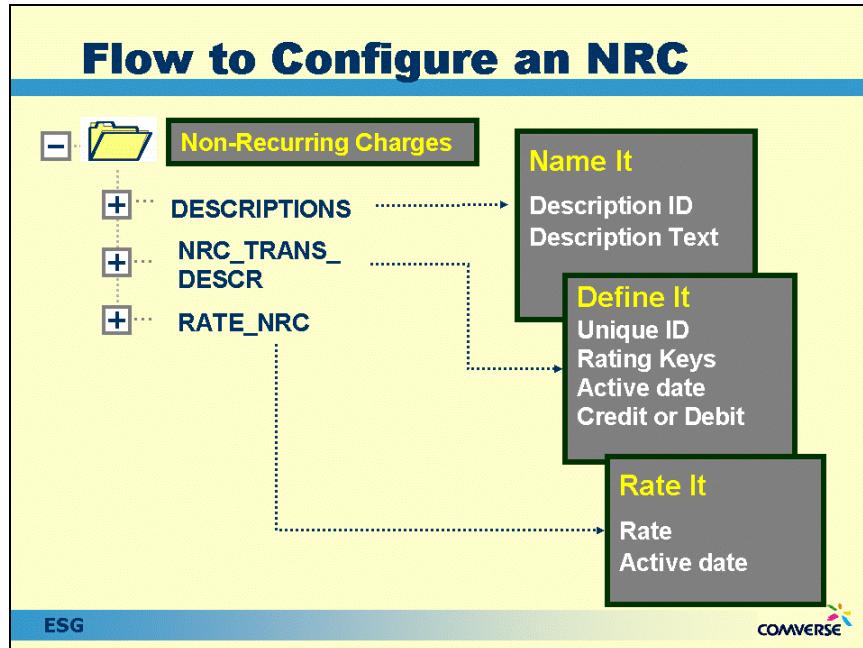


ESG 

Review of NRC Details

1. What is an NRC?
2. List some attributes of an NRC.
3. List some examples of NRCs.

FLOW TO CONFIGURE NRCs

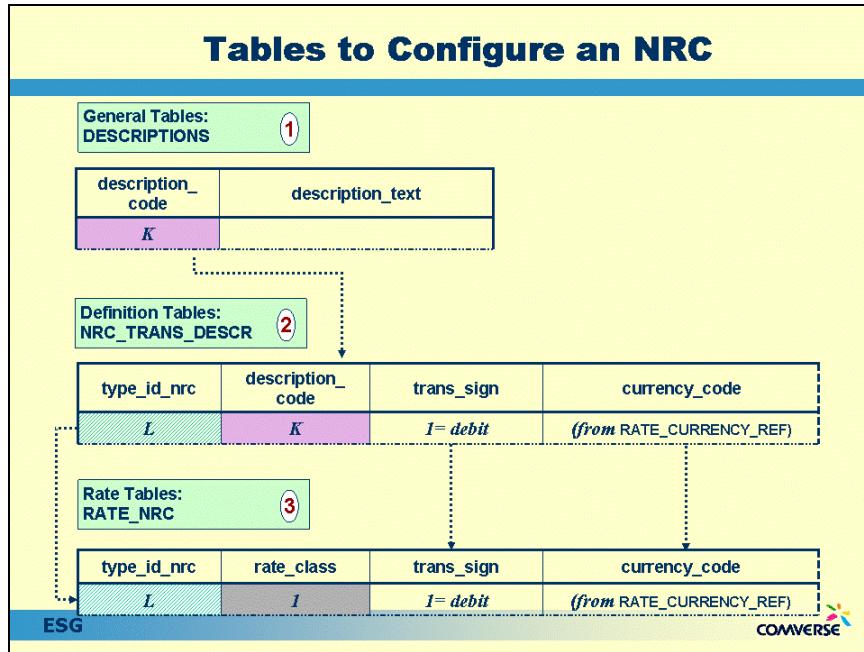


Notes on Kenan BP Tables and Fields being Configured by this Flow

DESCRIPTIONS	Name the NRC.
NRC_TRANS_DESCR	Create a unique identifier for the NRC, define its basic attributes, and set values that determine display, journal, taxing, and billing info for the NRC.
RATE_NRC	Define NRC rates. This table is comprised of mandatory and optional keys.

Note: Population of the field **rate_class** is mandatory for NRCs.

TABLES TO CONFIGURE NRCs



Here is the flow if you use Configurator in table mode.

NRC_TRANS_DESCR Activate a rating key by placing 1 in the associated rate key field. If a rating key is not used, enter 0 in the associated rate key field.

RATE_NRC

The mandatory rating keys are:

- `type_id_nrc` - the unique identifier from NRC_TRANS_DESCR
- `currency_code` - currency type. An NRC can have multiple currencies.
- `active_date` - the date that the NRC rate becomes active. Active dates and inactive date must not overlap.
- `rate_class` - specifies the rate class for the NRC

The optional rating keys are: `rate_component_id`; `rate_equip_type`; `rate_equip_class`; and `rate_class` of service.

RATING RULES:

- If an optional rating key in NRC_TRANS_DESCR is turned on (`value = 1`), populate the corresponding field in RATE_NRC.
- If a rating key is turned off (`value = 0` in NRC_TRANS_DESCR), set the corresponding field in RATE_NRC at 0.

STEPS: NAME AND DEFINE AN NRC

Open Configurator (if not already opened).

- | | |
|---------------------------|--|
| Name the
NRC | <ol style="list-style-type: none">1. Open Tables>General Tables.2. Double-click DESCRIPTIONS and select New Row. Or select an existing line and click Clone Row
3. Modify original data or insert new date, then click Save Row.4. Click Yes or OK to accept the save prompts. Click OK to close the instance. <hr/> |
| Define the
NRC | <ol style="list-style-type: none">1. Open Tables>Rate Tables.2. Double-click NRC_TRANS_DESCR and select New Row. Or select an existing line and click Clone Row
3. Modify original data or insert new date, then click Save Row.4. Click Yes or OK to accept the save prompts. Click OK to close the instance. |

STEPS: RATE AND TEST AN NRC

- Rate the NRC**
1. Open Tables>Product Tables.
 2. Double-click RATE_RC and select New Row. Or select an existing line and click Clone Row
 3. Modify original data or insert new date, then click Save Row.
 4. Click Yes or OK to accept the save prompts. Click OK to close the instance.
-

- Test NRC Configuration**
1. Create a new account with an a la carte charge/NRC (for this class, backdate the account and charge to 1/1/01).
 2. Associate the NRC to the account or service. Use a unique subscription number if adding a service-level NRC.
 3. Save the NRC.
 4. Run BIP and BIF to verify that the correct rate appears on the invoice.

EXERCISE: CONFIGURE TELEPHONY NRCs FOR ABC

1. List the NRCs needed for the ABC Communications Telephony offerings.

2. Configure the first NRC, basing your new configuration on existing configuration for Local Telephony Installation Charge. As you work, record your values in the chart on the next page.
3. Once configured, test the NRC.
If the NRC cannot be provisioned successfully, return to step 2 to check your configuration.
4. When the NRC is provisioned successfully, repeat steps 2 and 3 for the remaining NRC(s).

Questions for Discussion

1. If you wanted the Repair Service rate to differ for Standard and Premium customers, what changes would you make to your configuration?
2. Why would you create account level NRCs rather than subscription level NRCs?
3. Describe two scenarios for which a company may create a new NRC, rather than using an existing one.

EXERCISE: PLAN TABLES TO CONFIGURE NRCs

DESCRIPTIONS:

Field Name	Value	Value
description_code		
description_text		

NRC_TRANS_DESCR:

Field Name	Value	Value
type_id_nrc		
trigger_level		
provider_id		
product_line_id		
trans_sign		
description_code		
is_displayed_on_bill		
currency_code		
installment_type_id_nrc		
max_installments		
rate_component_id		
equip_type_code		
rate_equip_type		
equip_class_code		
rate_equip_class		
class_of_service_code		
rate_class_of_service		
open_item_id		

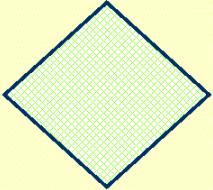
RATE_NRC:

Field Name	Value	Value
rate_class		
type_id_nrc		
rate		
currency_code		
active_date	01/01/90	01/01/90
inactive_date		

REVIEW NRC CONFIGURATION

Review NRCs

- What is an NRC?**
- What are the attributes of an NRC?**
- What are examples of an NRC?**



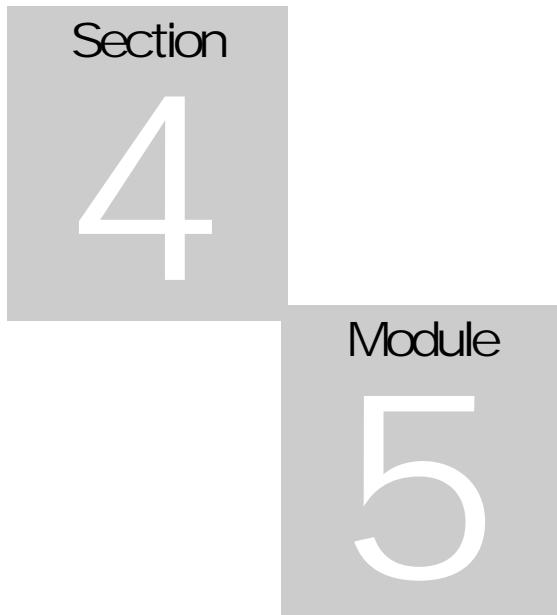
ESG
CONVERSE

Configure the NRC: What are the steps? Where do you complete these steps?

Test the NRC: What are the steps? Where do you complete these steps?

Lessons Learned:

For More Information: Advanced concepts are covered in other ESG Kenan BP courses. Also consult the **Guide to Products, Rates & Discounts, Database Reference Administration Vol. 1 and 2, Common Configuration Tasks, and Billing Operations Guide.**



4.5. CONFIGURE A USAGE TYPE

MODULE OBJECTIVES

By the end of this module, you will be able to:

- Access tables and examine an existing usage type
- Identify the primary characteristics of a usage type
- Identify rating keys used in usage

USAGE TYPE REVIEW

Usage Type Review

- What is a usage type?
- What is a usage type group?
- What are the attributes of usage?
- What are examples of usage?



ESG CONVERSE

Review

Usage Type
Details

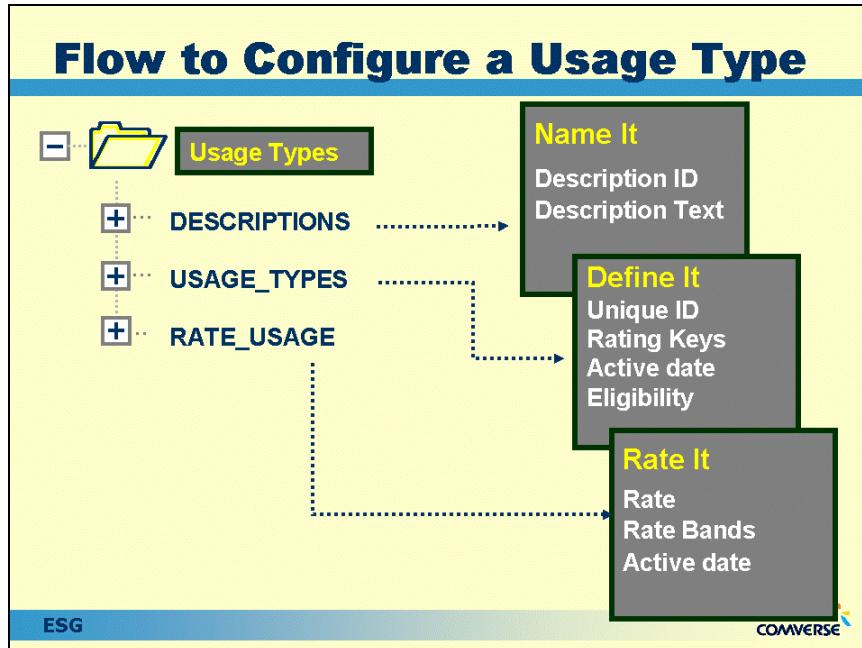
2. What is a usage type?

3. What is a usage type group?

4. List some attributes of usage.

5. List some examples of usage.

FLOW TO CONFIGURE USAGE TYPE



Notes on Kenan BP Tables and Fields being Configured by this Flow

DESCRIPTIONS Name the new usage type.

USAGE_TYPES Create a unique identifier for the usage type and define its attributes, such as units and how the usage will be rated.

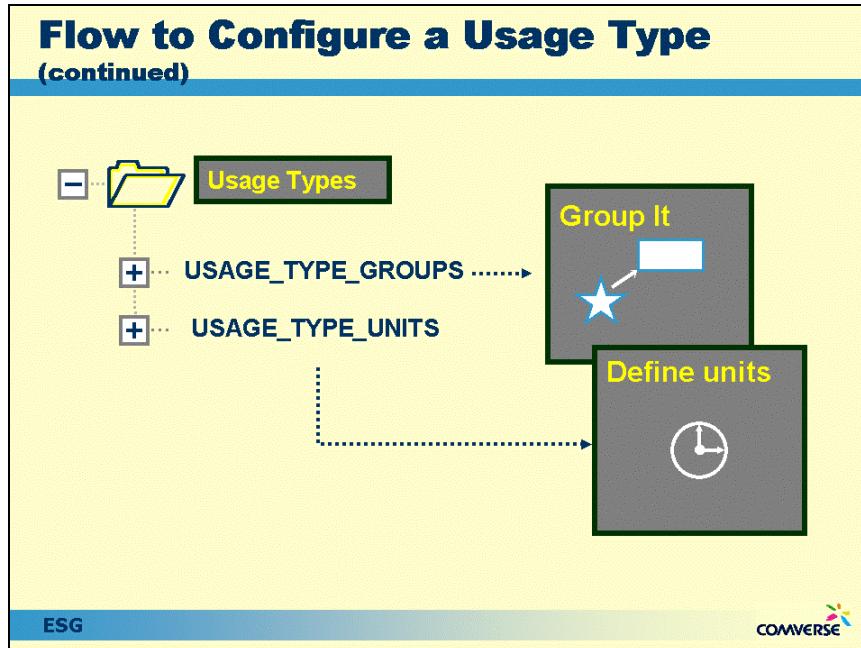
There are several optional rating keys for usage, making its functionality very flexible. You can choose many ways to rate usage, such as:

- Based upon time of day the usage event occurred
- By type of customer or type of service
- By the RC that usage is attached to.

NOTE: A prefix of "use" identifies optional rating keys in this table, such as `use_element_id` and `use_rate_period`. Some "use" fields may require that you populate additional tables.

RATE_USAGE Define rates for a given usage type. Usage can be charged by flat rate, per unit rate and/or by rate bands.

FLOW TO CONFIGURE USAGE TYPE (CONTINUED)



Notes on Kenan BP Tables and Fields being Configured by this Flow

USAGE_TYPE_GROUPS For usage to be validated through an RC, you must group the usage type. Define a usage group in the table USAGE_TYPE_GROUPS.

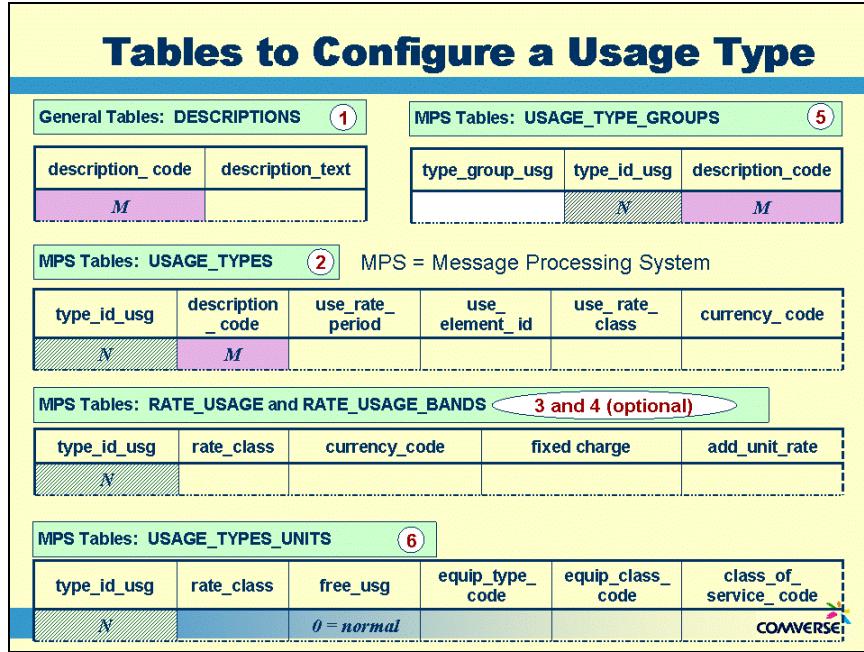
Attach a UTG to the RC using the PRODUCT_ELEMENTS table.

UTG rules:

- Each usage type must be in at least one UTG and can be in multiple UTGs.
- An RC can only be associated with **one** UTG.

USAGE_TYPE_UNITS Populate this table if the new usage type is units-based. Define usage type billable units (second, minutes, megabytes, and such).

TABLES TO CONFIGURE USAGE TYPES



Here is the flow when you use Configurator in table mode.

As with most of the other tables you configure in this class, there are many more fields that we don't discuss in detail. The diagram shows the minimum number of mandatory fields.

EXERCISE: EXAMINE USAGE TYPES

Use Configurator to navigate to Usage>Usage Types. Research and answer these questions:

1. For Local Calls, what does a value of 0 in the field free_usg mean? What would a value of 1 mean?

What usage types do you suppose might have a value = 1 in this field? What usage types might have a value of 0 here?

2. For Pay-Per-View, what does a value of 1 in the field is_pre-rated signify?

What other usage types might have a value of 1 for is_pre-rated?

3. How would you rate a local call where the rate depends upon the time of day the call is made?

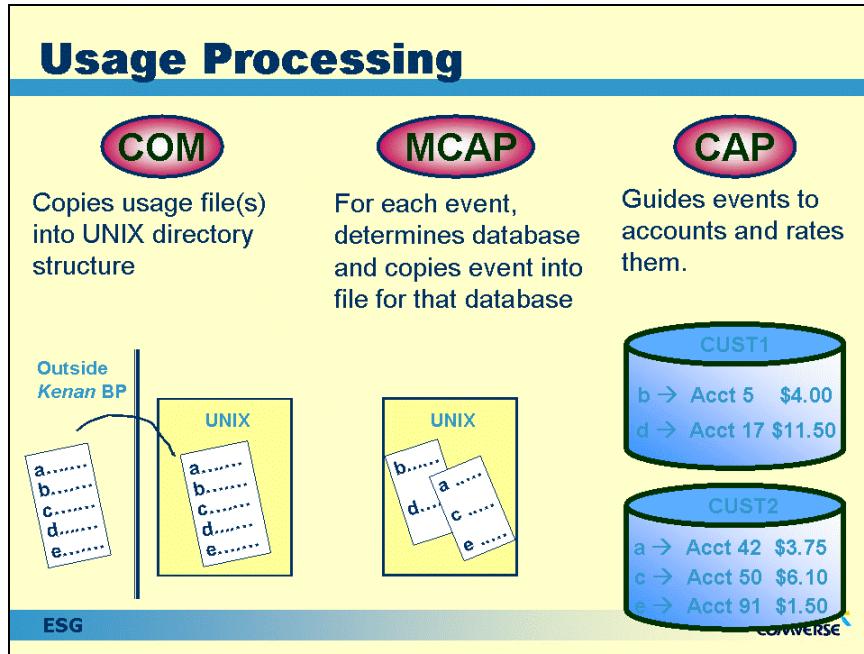
4. What rating keys need to be activated if the charge is different based on different subscription attributes?

EXERCISE: EXAMINE USAGE TYPES (CONTINUED)

Use the objects found under Usage>Usage Types> and answer these questions:

1. Which usage type groups contain both Local and Long Distance Calls?
2. Which usage type group(s) contains Pay-Per-View?
3. What RCs validate both Local and Long Distance Calls?
Hint: Look elsewhere! This is not defined in usage tables.
4. What RC(s) validates Pay-Per-View?

USAGE PROCESSING



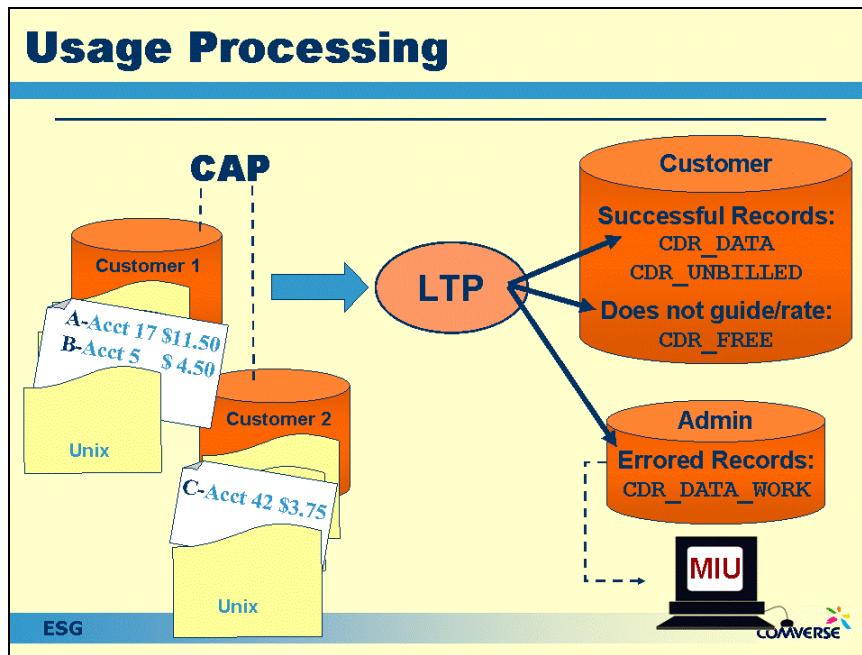
Usage processing retrieves, guides and rates usage events. This is accomplished through three processes: COM, MCAP and CAP/LTP.

NOTE: Kenan BP is not a mediation platform or switch, so does not directly monitor usage on a network.

Communications Process (COM)	Retrieves usage files from a network monitoring device or mediation platform. Files are stored in the UNIX directory structure.
Multiserver CDR Accumulation Processor (MCAP)	Once COM has completed, MCAP processes usage files, determines the appropriate Customer database, and splits the record by creating one usage file per Customer database.

Continued on next page

USAGE PROCESSING, CONTINUED



CDR Accumulation Processor (CAP)

After MCAP has completed successfully, CAP associates each usage event to an account. If event-time unit credits are in use, CAP calls DUCM (Discount and Unit Credit Manager) to send the CDR to Datablitz, which looks for unit credits and rates them appropriately. DUCM then sends the CDR back to CAP which completes the rating process based on rate information in the Kenan BP database. CAP then writes all CDRs to a flat file. Later the LTP (Long Term Persistence process) will write the CDRs in the flat file to CDR_DATA.

If usage records process successfully, you can view unbilled usage on the customer's account through the Unbilled Usage function. This is a holding place for usage charges.

If any usage records fail to be guided or rated properly, use the **Message Processing Investigation Unit (MIU)** to review, correct and reprocess them.

STEPS: VIEW UNBILLED USAGE

Unbilled usage **Unbilled Usage** is a holding place for all rated unbilled usage. Access this function using the Invoices button.

Unbilled Usage displays each unbilled usage record for the active account. Once the usage becomes billed, Unbilled Usage will be empty until usage is processed again for an account. Unbilled usage is adjustable.

- View unbilled usage**
1. Open an account in Customer Center.
 2. From the Account Summary window, click the Invoices button on the navigation bar.
 3. Click Suspense Account from the top pane.
 4. Click the Usage tab at the bottom of the window.
 5. View unbilled usage.
-

FYI: A CSR Can Issue an Interim Bill At the request of a customer, you can generate an **interim bill** between billing cycles. You might do this if the customer suspects unauthorized use and wants to see all unbilled usage on an invoice.

- Issue an Interim Bill**
1. Open the correct account.
 2. From the Account Summary, click the Off-Cycle Bills link from the center pane.
 3. Click the Add link at the top right of the right pane.
 4. Complete the fields on this window and click Ok.
- If the ProForma Bill option is selected, the charges included on this off-cycle bill will also appear on the next regularly-generated invoice.*
- Interim bills are triggered during the next bill run.*
- Hot bills are run immediately (if the software for this has been purchased and installed).*

STEPS: RUN USAGE PROCESSES

Launch Operations Center (following steps provided by the instructor)

1. Click the Internet Explorer icon on the desktop.
 2. The instructor will provide the URL to use.
An Operations Center logon screen will appear.
 3. The instructor will provide username and password information.
 4. Click Login to launch Operations Center.
- Schedule Process**
1. From the Operations Center window, click Processes. Select "Schedule Process".
 2. Enter the following data:
 - Module Group: *Message Processing*
 - Module Name: *COM, MCAP, CAP*
 - Node: *your instructor will tell you what to select*
 - Comment: *optional*
 - Process Name: *Type the process name plus two digits. Example: "com01"*
 - Task Name: *: Enter a text-based value. Example: your initials, or repeat the value from the Process Name field. 8 character maximum.*
 - Database: *use the name of the database you are working in*
 - Task Mode: *Production*
 - SQL Query: *Optional. Used when you want to limit the process to certain accounts. Format is TABLE NAME.field name=operator value. Example: CMF.bill_lname = 'Green', where Green is the last name on the account. Your instructor may provide required values for other fields. Otherwise, fields will be populated or can remain null.*
 - Schedule Type: *Now*
 3. Click *Submit*.
 4. Minimize the window.

Continued on next page

STEPS: RUN USAGE PROCESSES, CONTINUED

Run Process Monitor

1. From the Operations Center window, click Logs.
2. In the View window, select the following:
 - View: *Choose the Logs radio button*
 - Node: *Your instructor will tell you what to select*
 - Process Name: *Select the process you want to view the log for*
 - Log Type: *Choose Control Report*
3. Click the **View** button

The Log List appears.
4. Open the appropriate file.
5. If errors are reported, close the control report and perform step 2 again, only this time for **Log Type** choose **Process Log** to view error information.
6. View Unbilled Usage to verify that new usage charges have appeared.

REVIEW USAGE CONFIGURATION

Review Usage Configuration

- **Configure usage type:**
 - ✓ What are the steps?
 - ✓ Where do you complete steps?

- **Test the usage type:**
 - ✓ What are the steps?
 - ✓ Where do you complete steps?



```

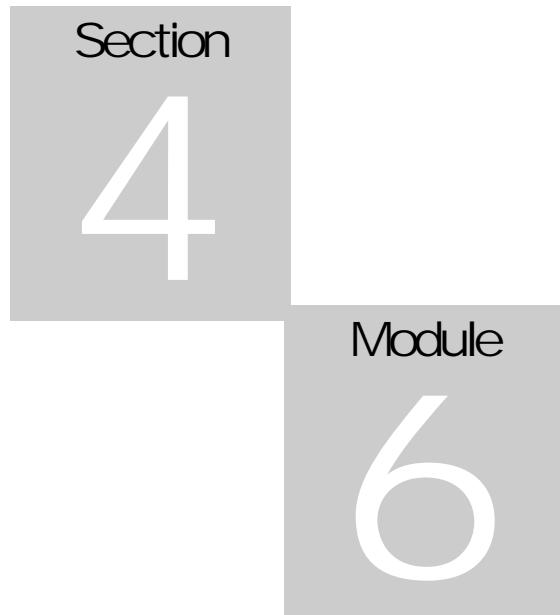
graph TD
    A[Usage Type Group] --- B1(( ))
    A --- B2(( ))
    A --- B3(( ))
  
```

ESG
CONVERSE

Configure the Usage Type: What are the steps? Where do you complete these steps?

Test the Usage Type: What are the steps? Where do you complete these steps?

For More Information: Advanced concepts are covered in other ESG Kenan BP courses. Also consult the **Guide to Products, Rates & Discounts, Database Reference Vol. 1, Configuration Guide Vol. 2, and Billing Operations Guide.**



4.6. CONFIGURE A CONTRACT

MODULE OBJECTIVES

By the end of this module, you will be able to, given a customer example, accurately:

- Configure a contract
- Test a contract

CONTRACT REVIEW

Contract Review

- What is a contract?
- What are the attributes of a contract?
- Do contracts have levels?
- What can contracts contain?
- What is an example of a contract?



ESG CONVERSE

Review: 1. What is a contract?

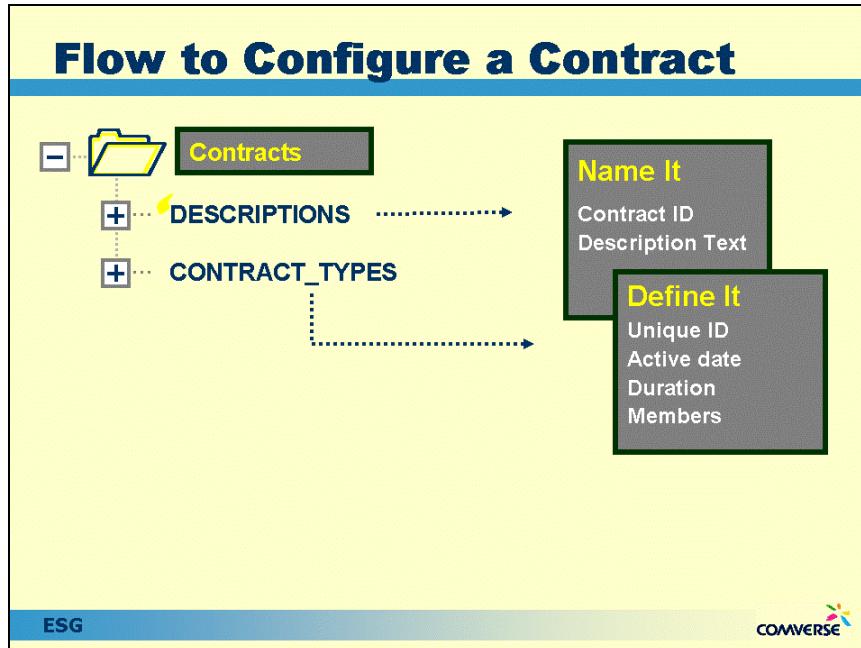
2. List the attributes of a contract

3. Do contracts have levels? Explain.

4. What can a contract contain?

5. Give an example of a contract.

FLOW TO CONFIGURE A CONTRACT

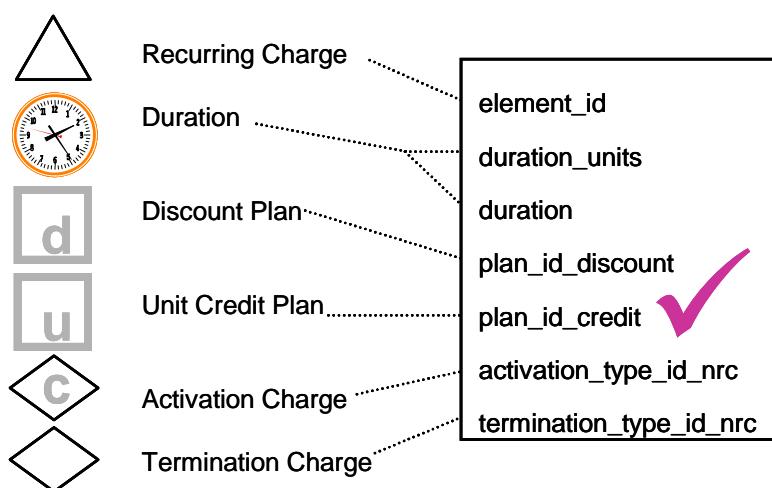


Notes on Kenan BP Tables and Fields being Configured by this Flow

DESCRIPTIONS Name the contract.

CONTRACT_TYPES Define the unique id of the contract, specify contract contents, and define contract duration. Durations are not mandatory, so can be unspecified if duration is unlimited.

The diagram lists contract members and corresponding field names.



TABLES TO CONFIGURE A CONTRACT

Tables to Configure a Contract

General Tables: DESCRIPTIONS (1)				
description_code	description_text			
S				
Product Tables: CONTRACT_TYPES (2)				
contract_type	element_id	description_code	contract_category	plan_id_credit
	G	S		
plan_id_discount	activation_type_id_nrc	termination_type_id_nrc	duration_units	duration

ESG

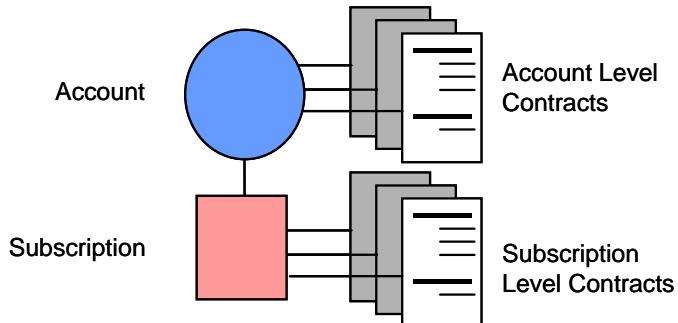


More Notes on CONTRACT_TYPES

The contract_type field specifies the contract unique ID. You must also define the contract category. In class, use Standard Promotion (contract_category = 6).

The duration_units and duration fields define how long the contract is active. The duration_units field defines a unit (days, weeks, months, and so on); the duration field specifies the number of duration units. So if duration_units = months and duration = 6, the contract will be active for 6 months after provisioned to a customer account.

Contracts do not have a specified level, but all items in a contract do. **All entities inside a contract must have the same level.** For example, if you have a discount plan that is account level and a unit credit plan that is subscription level, these two plans should not be in the same contract.



Note: None of the fields shown in the slide for CONTRACT_TYPES can be changed after the contract is saved, with the exception of the DESCRIPTIONS field.

STEPS: NAME AND DEFINE A CONTRACT

Open Configurator (if not already opened).

Name the Contract

1. Open Tables>General Tables.
 2. Double-click DESCRIPTIONS and select New Row. Or select an existing line and click Clone Row
 3. Modify original data or insert new date, then click Save Row.
 4. Click Yes or OK to accept the save prompts. Click OK to close the instance.
-

Define the Contract

1. Open Tables>Product Tables.
2. Double-click CONTRACT_TYPES and select New Row. Or select an existing line and click Clone Row
3. Modify original data or insert new date, then click Save Row.
4. Click Yes or OK to accept the save prompts. Click OK to close the instance.

Note: Contracts cannot be modified once they have been created. If you need to change a contract, you will need to create a new contract and delete the old one, assuming the old one has not yet been assigned.

If the contract has already been assigned, you can enter an inactive_date and clone that contract to create a new one with different values.

STEPS: TEST A CONTRACT

After the contract has been configured, test the configuration via Customer Center and run an accurate invoice.

- If the contract contains a termination NRC, disconnect the contract prior to its assigned end date to test the NRC.
 - If the contract is duration based, create as many invoices as are necessary to see the contract entities expire.
-

- Test Contract Configuration**
1. Create a new account and backdate it to 1/1/01.
 2. Create a new service/subscription.
 3. Provision a Contract.
NOTE: You may also need to provision charge items separately.
 4. Run BIP and BIF. If the contract is duration based, run BIP as many times as needed to create an invoice showing that the contract entities have expired.
 5. View the invoice to verify that the contract entities showed up on the invoice and the amount calculated is correct.
 6. If the entities do not show up on the invoice, or the amount calculated is incorrect, return to Configurator in order to troubleshoot the error.

EXERCISE: CONFIGURE AND TEST A CONTRACT

For this exercise, we will put the Telephony Install Fee NRC into a Telephony Installation Contract. In the next module, we will configure any discount plans and create contracts that contain them.

1. Configure the Installation Contract. As you work, record your values in the chart on the next page. Base your new configuration on the configuration for LD Calling Plan Contract.
2. Once configured, test the contract. If the contract cannot be provisioned successfully or billed correctly, return to step 2 to check your configuration. When the contract is provisioned successfully and bills correctly, repeat steps 2 and 3 for the remaining contracts.

Questions for Discussion

1. Does the CONTRACT_TYPES table allow you to affect the rates of its members?
2. Do contracts have levels? Explain.
3. Imagine that ABC Communications wanted to create a contract by which customers would pay a \$50 fee if they cancel their Monthly Access service before one year. What members would be in the contract? Which fields and values would you use?

MEMBERS	FIELD	VALUES

EXERCISE: PLAN TABLES TO CONFIGURE A CONTRACT**DESCRIPTIONS**

Field Name	Value	Value	Value	Value
description_code				
description_text				

CONTRACT_TYPES

Field Name	Value	Value	Value	Value
contract_type				
contract_category				
element_id				
duration_units				
duration				
plan_id_discount				
plan_id_credit				
activation_type_id_nrc				
termination_type_id_nrc				
description_code				
active_date				
inactive_date				
allow_account				
allow_serv_inst				

REVIEW CONTRACT CONFIGURATION

Review Contract Configuration

- Configure the contract:**
 - ✓ What are the steps?
 - ✓ Where do you complete these steps?

- Test the contract:**
 - ✓ What are the steps?
 - ✓ Where do you complete these steps?

- Lessons learned**



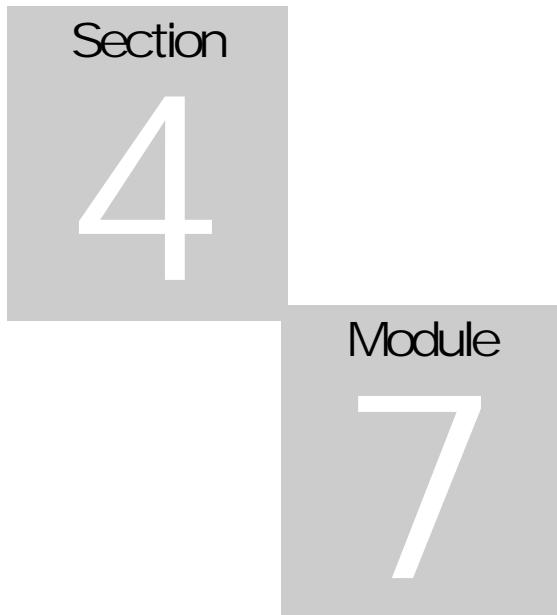
ESG
CONVERSE

Configure the Contract: What are the steps? Where do you complete these steps?

Test the Contract:: What are the steps? Where do you complete these steps?

Lessons Learned

For More Information: Advanced concepts are covered in other ESG Kenan BP courses. Also consult the **Guide to Products, Rates & Discounts, Database Reference Vol. 1, Configuration Guide Vol. 2, and Billing Operations Guide.**



4.7. CONFIGURE A DISCOUNT

MODULE OBJECTIVES

By the end of this module, you will be able to:

- Configure a discount
- Test the configuration by:
 - Placing the discount in a discount plan
 - Placing the discount plan in a contract
 - Provisioning the contract
 - Generating an invoice

DISCOUNT REVIEW

Discount Review

- What is a discount?
- What are the attributes of a discount?
- What are examples of discounts?
- What is the flow to configure a discount?



ESG 

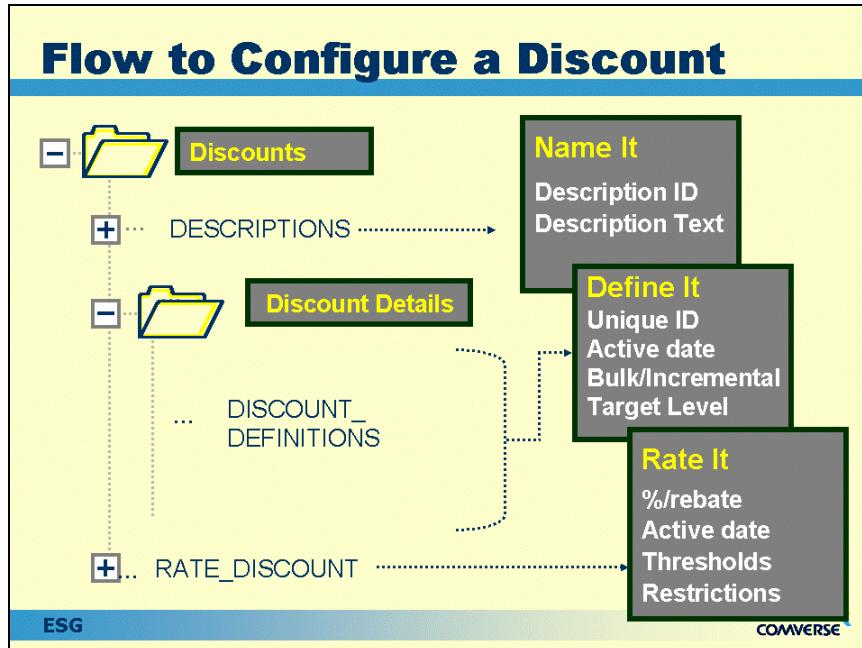
Review: 1. What is a discount?

2. List some attributes of a discount.

3. List some examples of discount.

4. What is the flow to configure a discount?

FLOW TO CONFIGURE DISCOUNTS



Notes on Kenan BP Tables and Fields being Configured by this Flow

DESCRIPTIONS Name the discount.

DISCOUNT_DEFINITIONS For each discount, defines the entity it affects and how it reduces the charge amount. Important fields are:

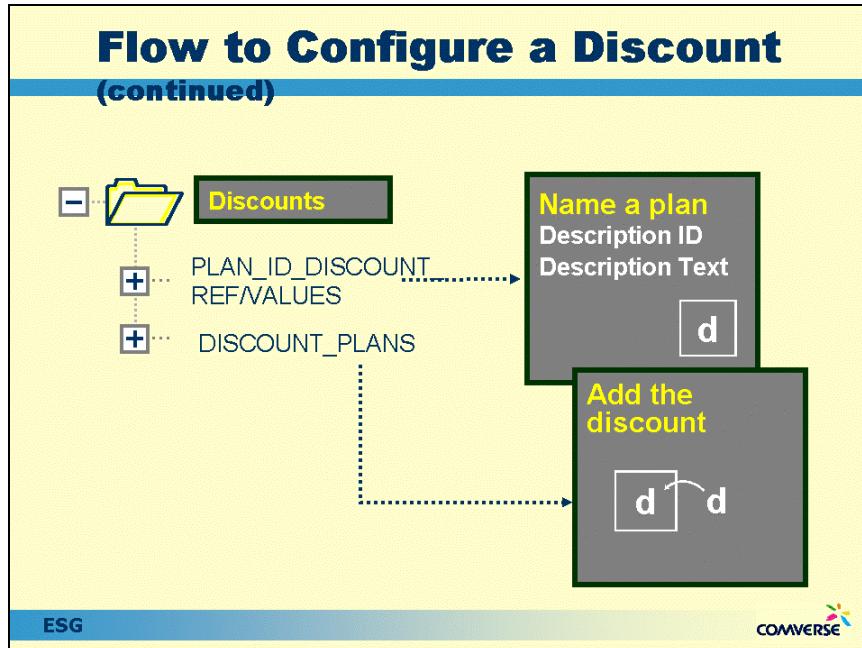
- discount_type (Bulk or Incremental)
- discount_domain (RC, NRC, Usage, or all)
- domain_id (the unique identifier for a specific charge domain).

RATE_DISCOUNT Define discount percentages or rebate amounts for all valid discounts.

HINT: You may have a discount with multiple bands (such as 5% off the first \$50 and 10% off all additional charges). The bands must have contiguous values in range_origin and range_terminus. That is, the value in range_terminus for one row must equal the value in range_origin for the next row.

Continued on next page

FLOW TO CONFIGURE DISCOUNTS (CONTINUED)



Notes on Kenan BP Tables and Fields being Configured by this Flow

The next two tables place the discount into a plan.

PLAN_ID_ DISCOUNT_ REF/VALUES	Name the discount plan.
DISCOUNT_ PLANS	Define discount plans, which consist of one or more discounts from DISCOUNT_DEFINITIONS.
CONTRACT_ TYPES	Add the discount plan to the appropriate contract. Note that it may be the <i>only</i> element in the contract.
NOTE:	A discount plan must contain at least one discount, but it can contain more.

TABLES TO CONFIGURE A DISCOUNT

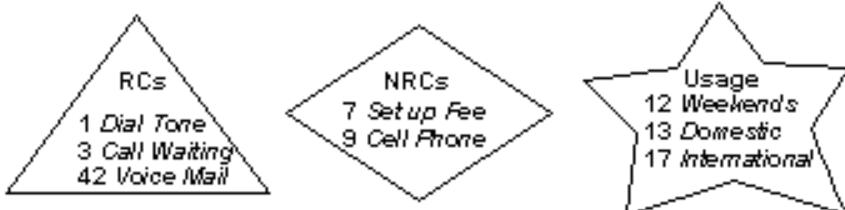
Tables to Configure a Discount							
General Tables: DESCRIPTIONS (1)							
description_code		description_text					
P							
Discount Tables: DISCOUNT_DEFINITIONS (2)							
discount_id	description_code	discount_type	discount_level	element_id	discount_quantum	discount_domain	domain_id
R	P						
Discount Tables: RATE_DISCOUNT (3)							
discount_id	rate_class	range_origin	range_terminus	discount_percent	discount_amount		
R							
Discount PLAN_ID_DISCOUNT_REF Tables PLAN_ID_DISCOUNT_VALUES (4)				Discount Tables: DISCOUNT_PLANS (5)			
plan_id_discount		display_value		plan_id_discount		discount_id	
Q				Q		R	

Here is the flow when you use Configurator in table mode.

**Notes on
DISCOUNT_
DEFINITIONS**

You may restrict the discount to a specific usage type, NRC, or RC. To do so, use discount_domain, domain_id and/or discount_quantum.

A company has the following offerings to be discounted:



If discount_domain is:

- 1 RC
- 2 NRC
- 3 Usage
- 4 All charges

Then, valid domain_id values are:

- 1, 3, or 42
- 7 or 9
- 12, 13, or 17
- NULL

STEPS: NAME AND DEFINE THE DISCOUNT

Open Configurator (if not already opened).

- | | |
|----------------------------|--|
| Name the Discount | <ol style="list-style-type: none"> 1. Open Objects> Functional Groups> Products, Rates, and Discounts> Discounts.
 2. Right click Descriptions and select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.
<i>This object corresponds to General Tables - DESCRIPTIONS.</i>
 3. Modify original data or insert new date, then click the Save and Close button.
 4. Click Yes or OK to accept the save prompts.
<i>A Save Successful message box appears.</i>
 5. Click OK to close the instance. |
| <hr/> | |
| Define the Discount | <ol style="list-style-type: none"> 1. Right click Discount Details>All Categories Charge Discounts (or one of the charge domain objects). Select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.
<i>This object corresponds to DISCOUNT_DEFINITIONS.</i>
 2. Modify original data or insert new date, then click the Save and Close button.
 3. Click Yes or OK to accept the save prompts.
<i>A Save Successful message box appears.</i>
 4. Click OK to close the instance. |
| <hr/> | |
| Rate the Discount | <ol style="list-style-type: none"> 1. Right click Discount Rates and select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.
<i>This object corresponds to Discount tables: RATE_DISCOUNT .</i>
 2. Modify original data or insert new date, then click the Save and Close button.
 3. Click Yes or OK to accept the save prompts.
<i>A Save Successful message box appears.</i>
 4. Click OK to close the instance. |

STEPS: CREATE AND TEST THE DISCOUNT

**Name the
Discount Plan**

1. Open Objects> Functional Groups> Products, Rates, and Discounts> Discounts.
2. Right click Discount Plans and select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.
This object corresponds to Discount tables:
PLAN_ID_DISCOUNT_REF and PLAN_ID_DISCOUNT_VALUES.
3. Modify original data or insert new date, then click Save and Close.
4. Click Yes or OK to accept the save prompts.
A Save Successful message box appears.
5. Click OK to close the instance.

**Put the
Discount into
the Plan**

1. Right click Discount Plan Members and select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.
This object corresponds to Discount tables: DISCOUNT_PLANS.
2. Modify original data or insert new date, then click Save and Close.
3. Click Yes or OK to accept the save prompts.
A Save Successful message box appears.
4. Click OK to close the instance.

**Put the Plan
into a
Contract**

1. Create a new contract and include the plan. (See previous module.)

Continued on next page

STEPS: CREATE AND TEST THE DISCOUNT, CONTINUED

Test Discount Configuration 1. Create a new account and backdate it to 1/1/01. Add the discount contract being tested.

2. Create a new service/subscription.
3. Provision the discounted charge.
4. Run BIP and BIF.
5. View the invoice to verify that the discount showed up on the invoice and the amount calculated is correct. If the discount does not show up, or the amount calculated is incorrect, return to Configurator and troubleshoot.

Note: If the discount being tested is a 100% discount, you may be unable to view an invoice since invoices valued at 0 are not displayed.

EXERCISE: CONFIGURE AND TEST A DISCOUNT

1. List the discounts needed for the ABC Communications Telephony offerings. Check the discounts that your instructor asks you to configure.

2. Configure the first discount, basing the new configuration on the existing configuration for Local Calling Plan Discount. Record your values in the chart provided. For the contracts, use the tables in the previous module.
3. Test the discount. If the discount cannot be provisioned successfully or billed correctly, return to step 2 to check your configuration.
4. When the discount is provisioned successfully and bills correctly, repeat steps 2 and 3 for the remaining discount(s).

Questions for Discussion

1. If you wanted the Monthly Access discount to apply to all RCs rather than only Monthly Access, how would you change the configuration?
2. Is your Monthly Access discount account-level or service-level?

In which table and in which field did you determine the level?

How does the level of this discount affect the way it reduces a charge?

3. What happens if you forget to add a row in DISCOUNT_PLANS?

EXERCISE : PLAN TABLES TO CONFIGURE A DISCOUNT

1 DESCRIPTIONS:

Field Name	Value	Value	Value	Value
description_code				
description_text				

4 PLAN_ID_DISCOUNT_REF/VALUES:

Field Name	Value	Value	Value	Value
plan_id_discount				
language_code				
display_value				

2 DISCOUNT_DEFINITIONS:

Field Name	Value	Value	Value	Value
discount_id				
discount_level				
discount_domain				
discount_quantum				
discount_type				
element_id				
product_line_id				
domain_id				
provider_id				
date_active	01/01/90	01/01/90	01/01/90	01/01/90
date_inactive				
description_code				

5 DISCOUNT_PLANS:

Field Name	Value	Value	Value	Value
plan_id_discount				
discount_id				

3 RATE_DISCOUNT:

Field Name	Value	Value	Value	Value
discount_id				
rate_class				
discount_percent				
discount_amount				
billing_frequency				
currency_code				
date_active	01/01/90	01/01/90	01/01/90	01/01/90
date_inactive				

6 7 Use the Contract tables in the previous module.

REVIEW DISCOUNT CONFIGURATION

Review Discount Configuration

- Configure the discount:**
 - ✓ What are the steps?
 - ✓ Where do you complete these steps?
- Test the discount:**
 - ✓ What are the steps?
 - ✓ Where do you complete these steps?
- Lessons learned**



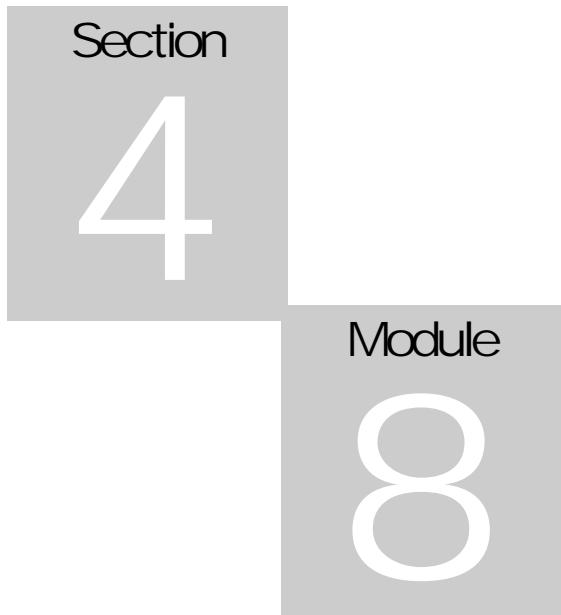
ESG
COMVERSE

Configure the Discount: What are the steps? Where do you complete these steps?

Test the Discount: What are the steps? Where do you complete these steps?

Lessons Learned

For More Information: Advanced concepts are covered in other ESG Kenan BP courses. Also consult the **Guide to Products, Rates & Discounts, Database Reference Vol. 1, Configuration Guide Vol. 2, and Billing Operations Guide.**



4.8. CONFIGURE A PACKAGE

MODULE OBJECTIVES

By the end of this module, you will be able to:

- Configure a package
- Test the configuration by:
 - ◆ Provisioning the package and
 - ◆ Generating an invoice

PACKAGE REVIEW

Package Review

- What is a package?
- What makes up a package?
- What are some examples of a package?

```
graph TD; Package[Package] --- Component1[Component]; Package --- Component2[Component]; Component1 --- Triangle1(( )); Component2 --- Triangle2(( )); Component2 --- Doc[document with checkmark]
```

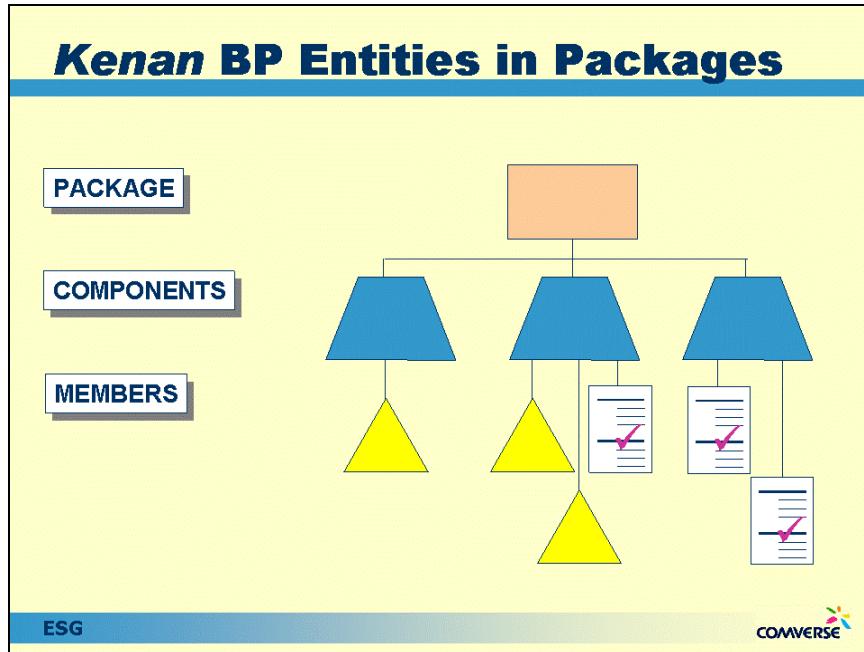
ESG

COMVERSE

Review

1. What is a package?
2. What makes up a package?
3. Give an example of a package.

KENAN BP ENTITIES IN PACKAGES



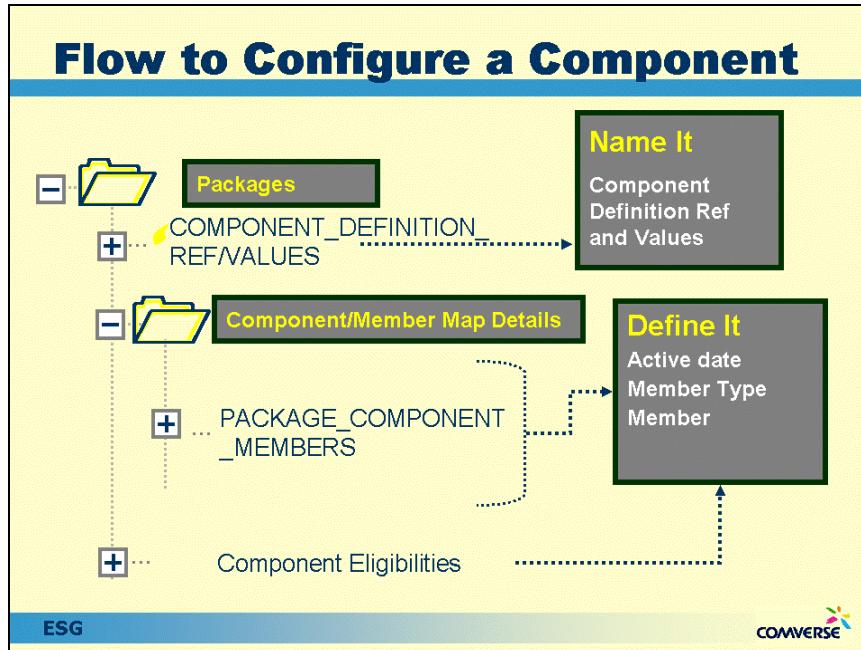
Packages Packages are made up of one or more **components**.

Components Components are made up of one or more **members**. As with other Kenan BP entities, components are at the account or the subscription level.

You can configure components inside a package to be provisioned multiple times or just once. Components may be mandatory or optional. Components can be re-used in other packages.

Members Recurring charges or contracts are the only valid members of a component. The members of each component **MUST** be at the same level as the component. If a non-RC, discount or unit credit is part of a package, it must first be included in a contract.

FLOW TO CONFIGURE A COMPONENT



Notes on Kenan BP Tables and Fields being Configured by this Flow

COMPONENT_ Name the components and set the level for the component.

DEFINITION_

REF and

COMPONENT_

DEFINITION_

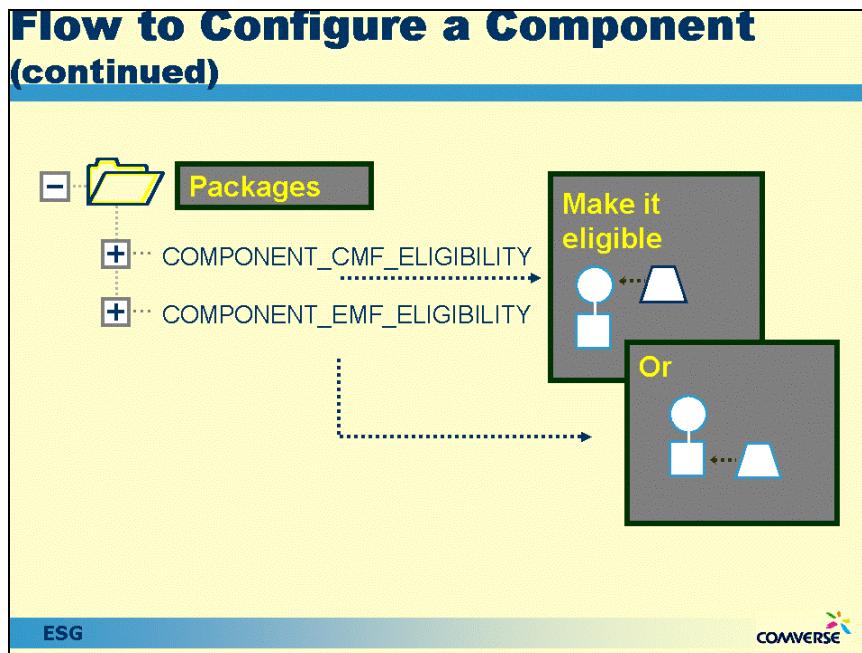
VALUES

PACKAGE_ Define a set of RCs and/or contracts to be associated to a component. This maps the identifier of the members to the identifier for the component.
COMPONENT_
MEMBERS

The number of members in the component equals the number of rows in this table for that component.

Continued on next page

FLOW TO CONFIGURE A COMPONENT (CONTINUED)



Notes on Kenan BP Tables and Fields being Configured by this Flow

Define Component Eligibility

Components are configured at the account or subscription level. Eligibility tables define rules for the CSR to provision this component. Components can be eligible or restricted to a type of service and/or rate class.

NOTE: You only populate one eligibility table per component.

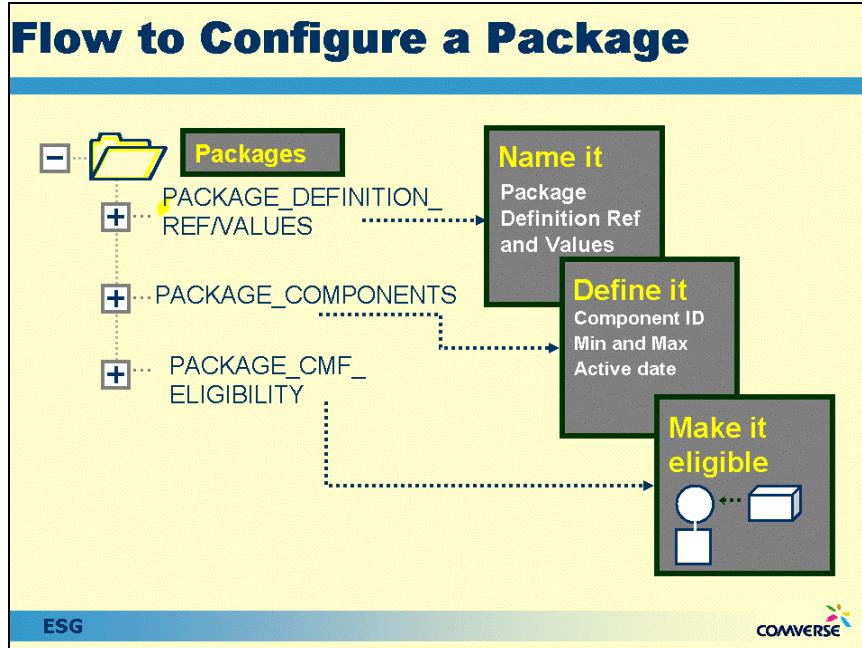
COMPONENT_CMF_ELIGIBILITY Define the eligibility for *account-level* components. Fields that can be used as eligibility keys are:

- rate_class
- account_category
- market_code

COMPONENT_EMF_ELIGIBILITY Define eligibility for *subscription-level* components. Fields that can be used as eligibility keys are:

- equip_type_code
- equip_class_code
- class_of_service_code
- rate_class

FLOW TO CONFIGURE A PACKAGE



Notes on Kenan BP Tables and Fields being Configured by this Flow

PACKAGE_DEFINITION_REF/VALUES

Name the package.

PACKAGE_COMPONENTS

Define the set of components that make up each package. This maps the identifier for the component to the identifier for the package, and specifies provisioning and activation information for the package.
You must create a row for each different component in the same package.

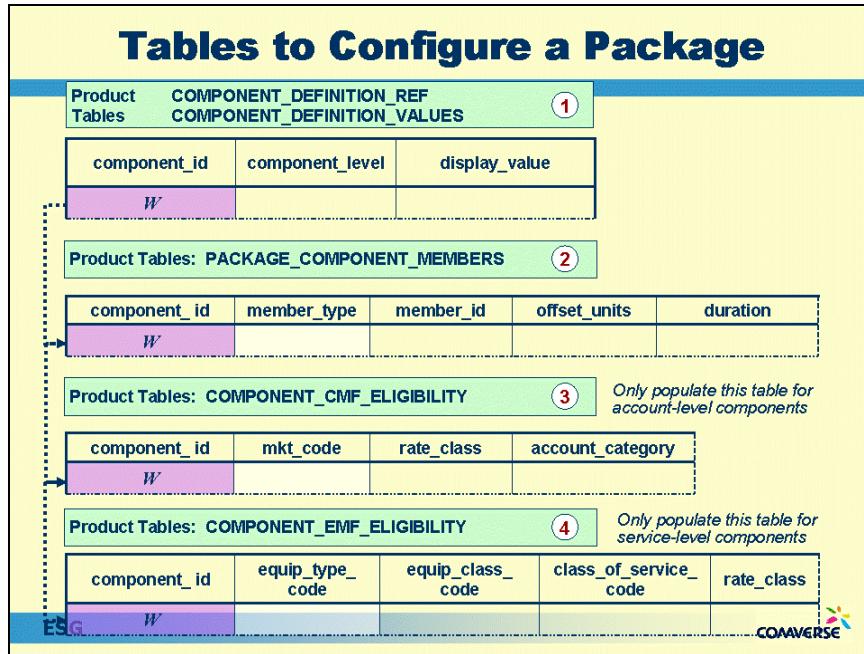
PACKAGE_CMF_ELIGIBILITY

Define eligibility for the package. Fields that can be used as eligibility keys are rate_class, account_category, and/or market_code.
An example of package eligibility is a package only available to business customers.

Additional Notes on Package Eligibility

The eligibility table allows the CSR to provision this package to a customer. You can also configure packages to be eligible or restricted by attributes such as market code or rate class.

TABLES TO CONFIGURE A COMPONENT



Here is the flow if you use Configurator in table mode.

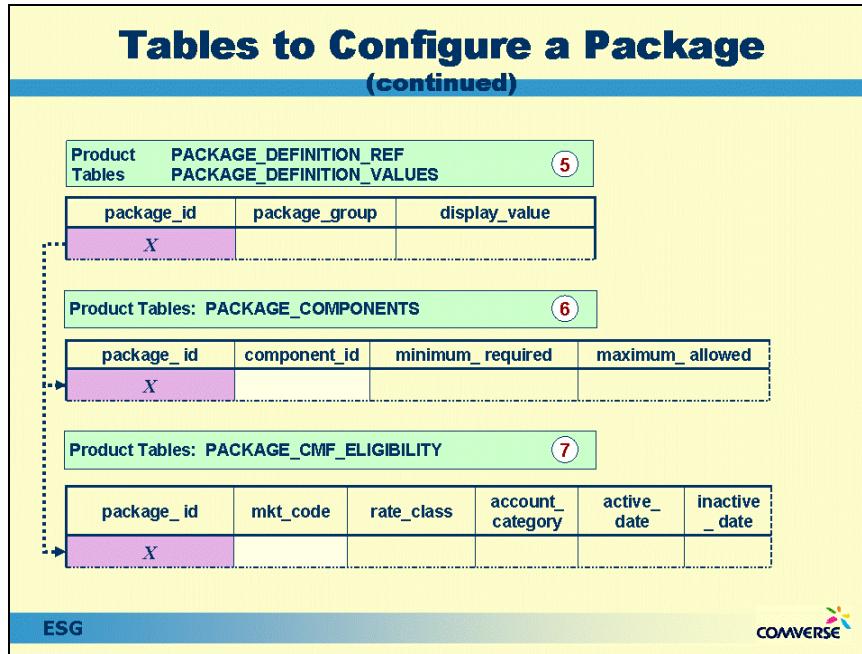
COMPONENT_DEFINITION_REF/VALUES The unique identifier of the component is used to rate by component_id for an RC in the RATE_RC table.

PACKAGE_COMPONENT_MEMBERS The member_type field is where you specify that the component member is an RC or Contract.

The member_id is either the element_id (for an RC) or contract_type (for a Contract).

Component eligibility tables Complete either COMPONENT_CMF_ELIGIBILITY (for account-level components) or COMPONENT_EMF_ELIGIBILITY (for service-level components).

TABLES TO CONFIGURE A PACKAGE (CONTINUED)



Complete package configuration The final group of tables to configure a package are:

- PACKAGE_DEFINITION_REF/VALUES
- PACKAGE_COMPONENTS (See more information below)
- PACKAGE_CMF_ELIGIBILITY

PACKAGE_COMPONENTS

This table allows you to configure the maximum and minimum components allowed for provisioning.

If a component is **required**, the configuration is:

- minimum_required = 1 or more
- maximum_allowed = some number equal to or greater than the minimum

If a component is **optional**, the configuration is:

- minimum_required = 0
- maximum_allowed = some number greater than 0

STEPS: CONFIGURE AND TEST A PACKAGE

Open Configurator (if not already opened).

Name the Component(s)

1. Open Objects>Functional Groups>Products, Rates, and Discounts>Components.
2. Right click the Components object and select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.
This table corresponds to the Product tables:
COMPONENT_DEFINITION_REF
COMPONENT_DEFINITION_VALUES.
3. Modify original data or insert new data, then click the Save and Close button.
4. Click Yes or OK to accept the save prompts.
A Save Successful message box appears. Click OK. The instance closes.

Define the Component(s) and Put the Member(s) into the Component

- NOTE:** *Entities must be configured first before they can be assigned to a component.*
1. Open Objects>Functional Groups>Products, Rates, and Discounts> Packages > Component/Member Map Details.
 2. Right click Contract Component/Member Maps or Product Component/Members Maps. Select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.
Either table corresponds to the Product table:
PACKAGE_COMPONENT_MEMBERS
 3. Modify original data or insert new data, then click the Save and Close button.
 4. Click Yes or OK to accept the save prompts.
A Save Successful message box appears. Click OK. The instance closes.
 5. Repeat for every member that you want to include in the component.
-

STEPS: CONFIGURE AND TEST A PACKAGE (CONTINUED)

- | | |
|---|--|
| Determine Eligibility for the Component(s) | <ol style="list-style-type: none"> 1. Open Objects>Functional Groups>Products, Rates, and Discounts> Packages > Component/Member Map Details. 2. <i>If your component members are account level, right click Component Eligibilities (Account) and select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.</i>
 <i>This object corresponds to the Product table:</i>
 <i>COMPONENT_CMF_ELIGIBILITY and</i>
 <i>If your component members are subscription level, right click Component Eligibilities (Service Instance) and select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.</i>
 <i>This object corresponds to Product table:</i>
 <i>COMPONENT_EMF_ELIGIBILITY.</i> |
| | <ol style="list-style-type: none"> 3. Modify original data or insert new date, then click the Save and Close button. 4. Click Yes or OK to accept the save prompts.
 <i>Save Successful message box appears. Click OK. The instance closes.</i> |
| Name the Package | <ol style="list-style-type: none"> 1. Right click the Packages object and select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.
 <i>This object corresponds to Package tables:</i>
 <i>PACKAGE_DEFINITION_REF and</i>
 <i>PACKAGE_DEFINITION_VALUES.</i> 2. Modify original data or insert new date, then click Save and Close. 3. Click Yes or OK to accept the save prompts.
 <i>A Save Successful message box appears. Click OK. The instance closes.</i> |
| Put the Component(s) into the Package | <ol style="list-style-type: none"> 1. Right click Package/Component Maps and select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance.
 <i>This object corresponds to the PACKAGE_COMPONENTS table.</i> 2. Modify original data or insert new date, then click Save and Close. 3. Click Yes or OK to accept the save prompts.
 <i>A Save Successful message box appears. Click OK. The instance closes.</i> 4. Repeat for every component that you are including in a package. |
-

STEPS: CONFIGURE AND TEST A PACKAGE (CONTINUED)

Determine Eligibility for the Package	<p><i>This table MUST be populated to view the package through Customer Center.</i></p> <ol style="list-style-type: none"> 1. Open Objects>Functional Groups>Products, Rates, and Discounts> Packages. 2. Right click the Package Eligibilities object and select Insert Instance. Or expand the tree, right click an existing instance and select Clone Instance. <i>This object corresponds to PACKAGE_CMF_ELIGIBILITY.</i> 3. Modify original data or insert new date, then click Save and Close. 4. Click Yes or OK to accept the save prompts. <i>A Save Successful message box appears.</i> 5. Click OK. <i>The instance closes.</i>
Test Package Configuration	<ol style="list-style-type: none"> 1. Create a new account with One Step Connect or New Customer Acquisition. Remember to backdate the account to 1/1/01. 2. Provision all components of the Package. 3. Run BIP and BIF. <ul style="list-style-type: none"> ▪ If the package contains a duration-based contract, create as many invoices as are necessary to see the contract entities expire. ▪ If the package contains a termination NRC, disconnect the package prior to its assigned end date to test the NRC. 4. View the invoice to verify that the entities showed up on the invoice and the amounts calculated are correct. 5. If the entities do not show up on the invoice, or the amount calculated is incorrect, return to Configurator and troubleshoot the error.

EXERCISE: PLAN AND CONFIGURE AN ABC PACKAGE

1. List the components and component members needed for the ABC Communications Telephony package.

COMPONENTS	COMPONENT MEMBERS

2. Draw the package you have planned.

EXERCISE: PLAN TABLES TO CONFIGURE ABC's PACKAGE

COMPONENT_DEFINITION_REF

Field name	Value	Value	Value	Value
component_id				
component_level				
active_date	01/01/90	01/01/90	01/01/90	01/01/90
inactive_date				
language_code				
display_value				

PACKAGE_COMPONENT_MEMBERS

Field Name	Value	Value	Value	Value	Value	Value
component_id						
member_type						
member_id						
billing_frequency						
active_date	01/01/90	01/01/90	01/01/90	01/01/90	01/01/90	01/01/90
inactive_date						

EXERCISE: PLAN TABLES TO CONFIGURE ABC's PACKAGE (CONTINUED)

COMPONENT_EMF_ELIGIBILITY

Field Name	Value	Value	Value
component_id			
equip_type_code			
equip_class_code			
class_of_service_code			
rate_class			

COMPONENT_CMF_ELIGIBILITY

Field Name	Value	Value	Value
component_id			
rate_class			

PACKAGE_DEFINITION_REF

Field name	Value
package_id	
active_date	01/01/90
inactive_date	
language_code	
display_value	

PACKAGE_COMPONENTS

Field name	Value	Value	Value	Value
package_id				
component_id				
minimum_required				
maximum_allowed				
active_date	01/01/90	01/01/90	01/01/90	01/01/90
inactive_date				

PACKAGE_CMF_ELIGIBILITY

Field Name	Value
package_id	
rate_class	
active_date	01/01/90
inactive_date	

REVIEW PACKAGE CONFIGURATION

Review Package Configuration

- Configure the package:
 - ✓ What are the steps?
 - ✓ Where do you complete these steps?
- Test the package:
 - ✓ What are the steps?
 - ✓ Where do you complete these steps?
- Lessons learned

```
graph TD; Package[Package] --> Component1[Component]; Package --> Component2[Component]; Component1 --- Triangle1(( )); Component2 --- Triangle2(( )); Component2 --- Checklist[Checklist]
```

Configure the Package: What are the steps? Where do you complete these steps?

Test the Package: What are the steps? Where do you complete these steps?

Lessons Learned

For More Information: Advanced concepts are covered in other ESG Kenan BP courses. Also consult the **Guide to Products, Rates & Discounts**, **Database Reference Vol. 1**, **Configuration Guide Vol. 2**, and **Billing Operations Guide**.

REVIEW CONFIGURATION SECTION

Review Configuration Section

- Used Configurator (Kenan BP table configuration environment) to configure data entities
- Examined primary Kenan BP reference documents and located details available in each

ESG



NOTES

Section

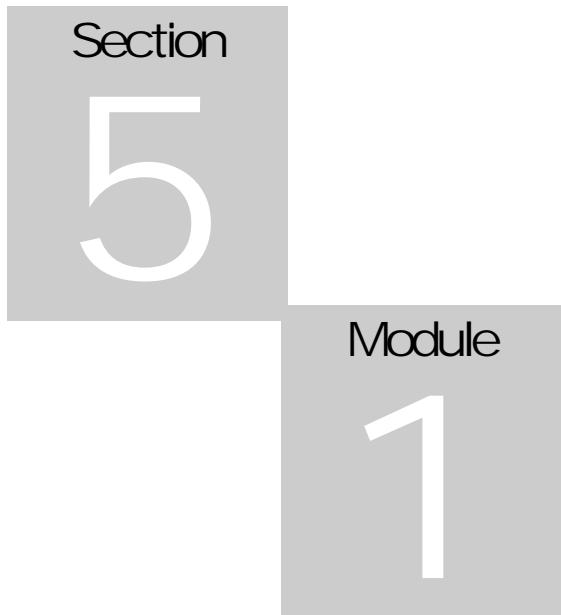
5

5. ADDITIONAL BILLING AND FINANCIAL SYSTEM FUNCTIONS

SECTION OBJECTIVES

By the end of this section, you will be able to:

- Add accounts to an account hierarchy
- Describe the purpose of hierarchies and give an example
- Add an adjustment against a specific charge
- Add a manual payment



5.1. HIERARCHIES

MODULE OBJECTIVES

By the end of this module, you will be able to:

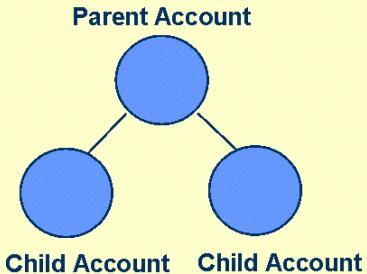
- Explain the purpose of account hierarchies and charge redirections.
- Create account hierarchies with charge redirections.

Now that you're a pro at configuration, you will have a greater appreciation of the CSR interfaces and how they relate to the databases.

ACCOUNT HIERARCHY

Account Hierarchy

- Allows accounts to be linked
- Allows use of unbilled accounts and charge redirections
- Allows parent/child relationships
- Contains a master account
- Can contain unlimited levels



The diagram illustrates an account hierarchy. At the top is a blue circle labeled "Parent Account". Two lines descend from it to two separate blue circles labeled "Child Account" on either side.

ESG CONVERSE

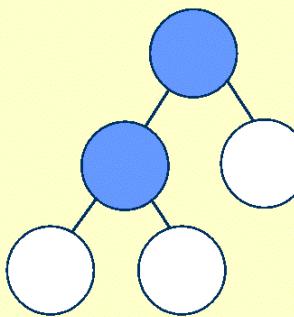
Allows accounts to be linked	Hierarchies allow Kenan BP to mimic a corporate structure to facilitate account management and billing for the customer.
Allows use of unbilled accounts and charge redirections	Charges can be redirected from one account in a hierarchy to be billed to another account in the hierarchy.
Parent/Child Relationships	<p>An account that owns another account is called the “parent” of the owned account.</p> <p>An account owned by another account is called the “child” of the account that owns it.</p>
Contains a master account	An account hierarchy consists of a single master account, its children, its children’s children, etc. The master account is called the hierarchy account, and its ID is used as the hierarchy identifier.
Can contain unlimited levels	An account hierarchy can contain as many accounts as necessary, with as many layers of accounts as desired.

Note: All accounts in a hierarchy must reside on the same Customer server.

BILLED AND UNBILLED ACCOUNTS

Billed and Unbilled Accounts

- Billed**
 - ✓ Receives one invoice for all responsible charges
 - ✓ Cannot become unbilled
- Unbilled**
 - ✓ Charges must be billed to another account
 - ✓ Can become billed
 - ✓ Can be used as place holders in hierarchies



ESG CONVERSE

Billed Accounts A billed account in the hierarchy must be responsible for the charges that the unbilled accounts generate.

A billed account can never become unbilled.

Unbilled Accounts An unbilled account can “own” charges, but the charges must be directed to a billable account in the same hierarchy.

Unbilled accounts can be changed to billed accounts.

REDIRECT CHARGES

Redirect Charges

- **Redirect charges to a billable account:**
 - ✓ Products (RCs)
 - ✓ Charges (NRCs)
 - ✓ Usage

ESG 

Charges can be redirected from one account to another.

**The
“Rules”**

1. All charge types (products, charges, and usage) can be redirected.
2. The owning account (the account that the charges are provisioned to) can be unbilled or billed.
3. The receiving account must be an active, billable account in the same hierarchy.
4. Create the charge redirection from the **Account Summary** (for either account) if you want it to apply to the charges for all services of the owning account.
5. Create the charge redirection from the **Services** window of the owning account if you want it to apply to only charges for a specific service.
6. You can create multiple charge redirections for one service: one for Products, one for Charges, and one for Usage. If you need to direct two charge types (but not all three), you'll need to create two charge redirections.
7. The service-level charge redirections take precedence over account-level charge redirections. For example, you could redirect all charges from account 2 to account 1 at the account level, then redirect account 2's NRC charges from a particular service to account 3.
8. After a charge redirection has been established, it cannot be changed.

DIAGRAM AN ACCOUNT HIERARCHY

Business Requirements	<p>Use the following business requirements to diagram an account hierarchy for the ACME Corporation.</p> <p>ACME has four divisions:</p> <ol style="list-style-type: none">1. Administration2. Sales3. Marketing4. Product Development <p>A separate account will be established in Customer Center for each division. The Administration division will be the master (parent) account; each of the other divisions will be its children.</p>
Charge Redirections	<p>The Sales division will pay for all of its own charges.</p> <p>Administration will pay for all of Marketing's charges.</p> <p>Development will pay for its own charges, except for NRCs; Administration will pay for these.</p>
Diagram	Draw a diagram of ACME's account hierarchy in the space below.

STEPS: CREATE A HIERARCHY WITH CHARGE REDIRECTIONS

The general steps are:

1. Create the master account.
2. Create the child account:
 - Identify the parent account.
 - Set the child account as “Unbilled.” (optional)
 - Create charge rules. (optional)
3. Confirm:
 - View the account hierarchy.
 - View the charge rules.
 - Generate invoices and check the charges.

The specific steps are:

1. Verify that the desired parent account exists.
If desired, record its account number.
2. Create a new account using the **New Customer Acquisition** wizard. To place the account into a hierarchy, from the **Account Information** window in the **Account Details** area, click on the **Parent Account ID** drop-down. Use the binoculars button to search for the parent account and select it.
3. If all charges for this account will be paid by another account, from the **Billed Account** field, select **Unbilled**.
*If the child account will pay **some** of its own charges, do not make this change.*
4. To redirect *all* charges, on the **Final Confirmation** window, select **Add Charge Rule** from the **Actions** drop-down on the **Account** banner.
To redirect only *some* of the charges, select the **Add Charge Rule** action from the banner for the appropriate Service.
Redirecting charges is optional; each account can pay for its own charges.
5. Complete the **Create Charge Rule** window.
Selected Account is: Account that owns the charges
Active Date [select the date]
Bill to Account: [search for the account in the same way you located the parent account]
Charge Domain: [select a charge type, or All Charges]
Click **Ok**.

Continued on next page

STEPS: CREATE A HIERARCHY WITH CHARGE REDIRECTIONS (CONTINUED)

1. **End Session** and **Commit** the order.
The new account is now a child account of the parent.
2. To confirm the hierarchy, view the **Hierarchy** window.
If you want to view all of the elements for all accounts in the hierarchy, open the parent account to view the hierarchy.

To confirm the charge direction, from the **Account Summary** click the **Charge Rules** link from the **Financial** area.

*If the charges were redirected at the Service level, you would first select the appropriate service from the **Services** window and then click the **Charges Rules** link.*

To test the charge redirection, generate invoices and check the charges.

The hierarchy is identified by the account id for the parent account. When running BIP to generate an invoice for all accounts in the hierarchy, use the following SQL_query:

CMF.hierarchy_id=xx [replace xx with the account number of the parent account]

EXERCISE: SET UP A HIERARCHY WITH CHARGE REDIRECTIONS

ACME has approved the hierarchy that you diagrammed in the previous exercise. Now create accounts for Administration (the parent) and Marketing (child), and redirect all charges.

1. Create the parent account first, using the following customer information:
 - Account Category: Business
 - Last Name: Administration [If you are sharing a database, enter your initials at the start of the Last Name field.]
 - Company: ACME Corporation
 - Address: 1600 Penn. Ave., Washington, D.C. 20500

Add a Telephone Line Service with an External ID of 8007783421[YourInitials].

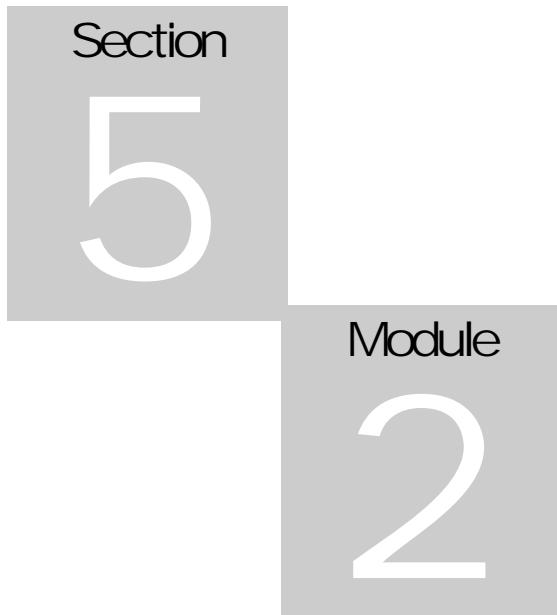
Add these components from the Basic Telephone Package:

- Basic Telephone Component
- LD Calling Plan Component

2. Use the Active Date of 1/1/01. End the session and commit the order. Make a note of the account number: _____.

Then create the child account with the same date, package components, service, and company name and address. Note the differences below.

- Last Name: Marketing [Add your initials, if necessary.]
3. From the Account Details window, indicate that Administration is the parent account.
4. Also from Account Details, make this an Unbilled Account.
5. From the Final Confirmation window, add a Charge Rule at the account level. Use the same date as before, and redirect all charges to the parent account.
6. Also at the Final Confirmation, add the following Service External ID:
 - 8005781234[YourInitials]
7. After completing the order, view the hierarchy and the charge rule.
8. Run BIP and BIF for the hierarchy (remember that the SQL query is different when billing a hierarchy), and examine the invoices.



5.2. ADJUSTMENTS AND PAYMENTS

MODULE OBJECTIVES

By the end of this module, you will be able to:

- Add an adjustment against a specific charge.
- Add a manual payment through the Payments function.

GUIDELINES FOR ADJUSTMENTS

Guidelines for Adjustments

- An adjustment is a debit or credit
- Must know what charges can be adjusted
- Line item adjustment (to a specific charge) or miscellaneous credit (to the invoice)
- Adjustment rules:
 - ✓ A line item adjustment cannot exceed the amount of the remaining charge.
 - ✓ A miscellaneous credit cannot exceed the amount of the remaining invoice.
- You can view adjustment notes

ESG



**An
Adjustment is
a Debit or
Credit**

An adjustment is a way for a CSR to debit or credit a charge amount. (A debit increases the amount the customer owes. A credit decreases the amount a customer owes.)

**What charges
can be
adjusted?**

Most charges that have appeared on an invoice can be adjusted, but it is possible to configure an NRC so it cannot be adjusted after it has appeared on an invoice. The only *unbilled* charge that can be adjusted is usage. RCs and NRCs may be adjusted only after they appear on a bill.

**Line Item
Adjustment
or
Miscellaneous
Credit**

When an adjustment is made against a specific charge, it is a *line item adjustment*. When an adjustment is made against an invoice, it is a *miscellaneous credit*.

**Adjustment
Rules**

A line item adjustment cannot exceed the amount of the remaining charge. A miscellaneous credit cannot exceed the amount of the remaining invoice.

**You Can
View
Adjustment
Notes**

Work completed in the Adjustments window generates notes that are accessible in Customer Center. View these notes by clicking the Adjustment Reason in the Invoices>Adjustments.

STEPS: ADD AN ADJUSTMENT

Add an Adjustment

1. With an active account open in Customer Center, click the Invoices button on the menu bar.
2. Select an invoice from the Invoice # list. You can adjust any charge that has appeared on an invoice or any unbilled usage.
3. To do a miscellaneous adjustment, click the Invoice Detail tab and select the balance (e.g., Telephony Item).
To do a line item adjustment, click the Products and Charges tab and select the element to be adjusted (e.g., Basic Cable).
The Balance Detail or Product Detail window appears.
4. On the Adjustments line, click Add.
The Invoice Adjustment window opens.
 - Select an adjustment type from the Type dropdown listbox.
 - Select an adjustment reason from the Reason dropdown listbox.
 - Enter notes into the Annotation textbox. This is a required field.
 - In the Calculation area, select the appropriate option button and enter an amount. Click the Calculate button to preview the adjustment.
5. Click Ok to apply the adjustment.
The adjustment will appear on the next invoice created for the account.

EXERCISE: ADD AN ADJUSTMENT

A representative from ACME Corporation's Administration has called to complain. She insists that her company is being charged service rates above market value.

1. Apply a miscellaneous credit of 25% to the Administration account's most recent invoice.
The reason: Service unsatisfactory to customer
2. Select the Suspense Account from the top pane and the Invoice Detail tab from the bottom pane. Is the adjustment listed there? _____

The company representative is also calling on behalf of the Marketing group. According to her, the Marketing office had no Dial Tone for three days last month.

1. From the Products and Charges tab, issue a line item credit for three days of Dial Tone for Marketing.
How much did you credit the account? _____
2. Select the Suspense Account from the top pane and the Invoice Detail tab from the bottom pane. Is the adjustment listed there? _____
3. Run BIP and BIF for the hierarchy.
4. Check the new invoice. Were both adjustments applied? _____
Are the credits still shown for the Suspense Account? _____

Questions for Discussion

Review with a partner:

1. If a cable customer calls to complain about HBO service, what types of adjustments might you offer?
2. Where can you view adjustments applied to an invoice?

GUIDELINES FOR MANUAL PAYMENTS

Guidelines for Manual Payments

- Entered through Customer Center
- Immediately affect account balance
- Posted by account or invoice number

ESG
COMVERSE

Guidelines Using the Payments function of Customer Center, you can enter cash, credit card and check payments directly into Kenan BP.

Payment types include:

- Payment
- Pre-payment
- Payment reversals
- Other payment types needed by bill processing

You may apply pre-payments to the Suspense Account so that they are not applied to outstanding invoices.

Manual payments that have not yet appeared on an invoice may be:

- Modified
- Deleted
- Transferred (between accounts or within an account between invoices)

STEPS: ADD A MANUAL PAYMENT

1. From the Invoices window, in the Actions pane, click Create Payment.
2. From the Create Payment window, select the invoice to which the payment will apply.
3. Select the payment type.
4. Enter the transaction date and payment amount.
Partial payments are accepted.
5. Select the payment method, and complete the associated fields.
Entering a description is optional.
6. Click Ok.
To view this payment, from the Invoice window select the invoice number from the top pane and click the Credits Applied tab at the bottom. Select the payment to view details.
The payment will be applied to the next invoice generated for the account.

EXERCISE: ADD A MANUAL PAYMENT

Task 1

1. Open the ACME Administration account and check the Outstanding Balance from the Account Summary window.
What is the account balance? _____
2. Apply a full payment to the most recent invoice. The transaction date should be the date due.
3. Check the account balance again.
What is the current balance? _____

Task 2

1. Apply a \$10 pre-payment with the same date to Administration's Suspense Account.
2. What is the current balance? _____
3. Run BIP and BIF for the hierarchy.
4. Examine Administration's most recent invoice. Was the pre-payment applied to the invoice? _____
What is the account balance? _____

Questions for Discussion

1. What types of payments can be applied to the Suspense Account? _____
2. Where can you view and apply manual payments? _____
3. Can you apply a payment to a specific invoice? _____
4. Can you make partial payments? _____

REVIEW CSR TASKS

Review CSR Tasks

- Create account hierarchies
- Make a manual adjustment
- Make a manual payment

ESG



For More
Information

Consult the **User Guide** for full documentation on Customer Center features.

NOTES

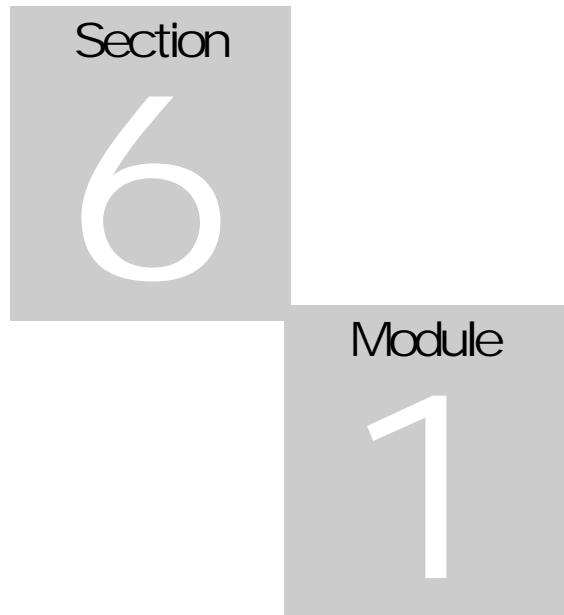
Section

6

6. KENAN BP BACKGROUND PROCESSES

SECTION OBJECTIVES

By the end of this section, you will be able to identify the steps necessary to run many Kenan BP background processes.



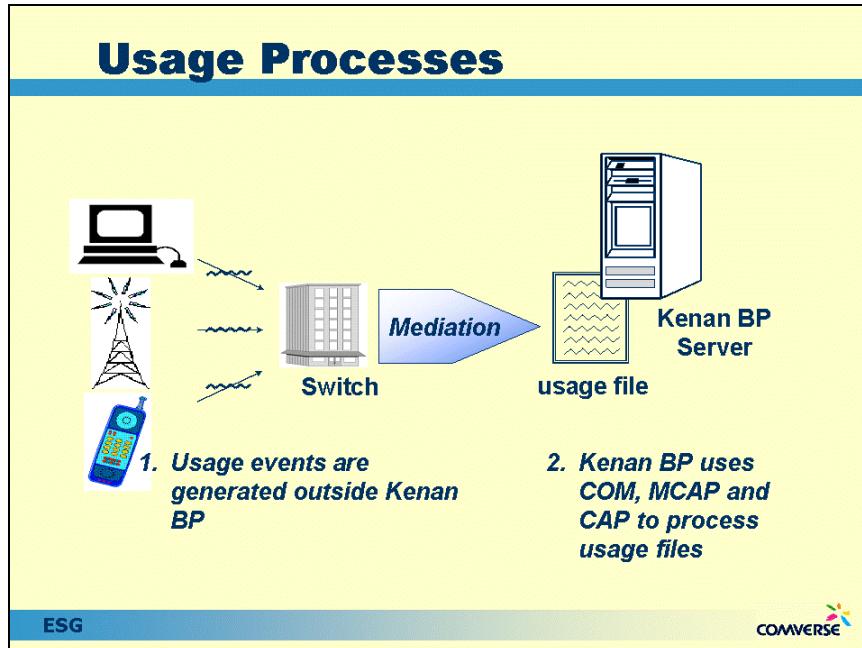
6.1. BACKGROUND PROCESSES

MODULE OBJECTIVES

By the end of this module, you will be able to:

- Identify steps to process usage.
- Identify steps to calculate and dispatch an invoice.
- Identify steps to process payments.
- Identify the steps used to report charge information to the general ledger.
- Diagram a flow of all processes to complete the life cycle of an account.

USAGE PROCESSES



Remember from an earlier discussion that usage events are collected outside Kenan BP. An event is generated by events such as when a subscriber makes a long distance call, downloads a pay-per-view movie, or accesses the internet via a mobile phone. Usage events from multiple sources can be included on the same usage file.

COM (Communications)

COM runs against data on the Admin database. *COM transfers files between Kenan BP and external systems* such as network devices. In the diagram, COM would import the usage file onto the Kenan BP server.

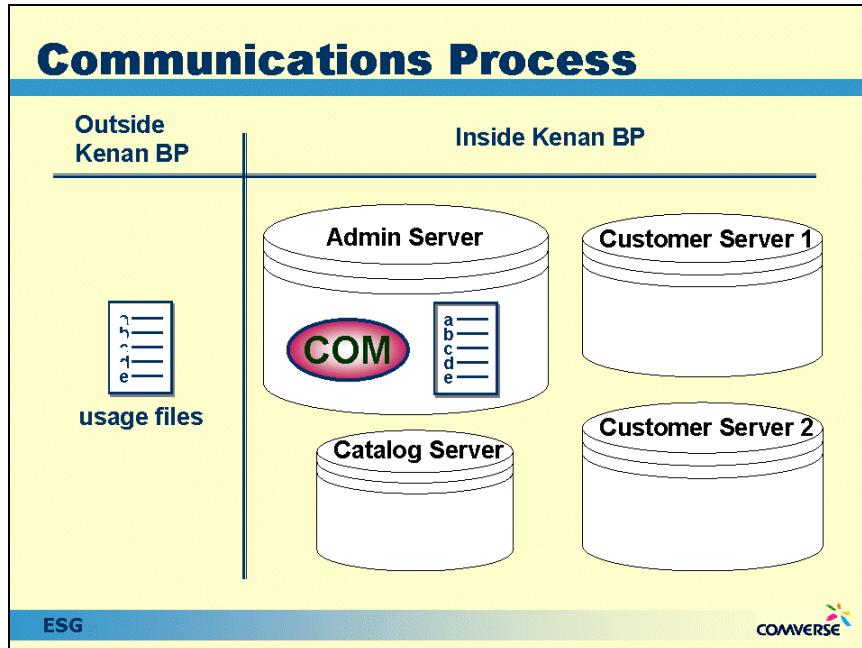
MCAP (Multi- Server CDR Accumulation Process)

MCAP runs against data on the Admin database. *MCAP guides usage records to their associated subscription*, finds the customer server where the account owning the subscription resides, and writes the usage record to a file designated for the appropriate customer server.

CAP (CDR Accumulation Process)

CAP runs against a file on the Admin database and writes to a flat file, which LTP later picks up and inserts into CDR_DATA. *CAP validates each usage event against the account, subscription, and RC combination, calls DUCM for unit credit rating, and applies all other rates for the event.* In a multi-server environment, CAP must be run against data on each Customer database.

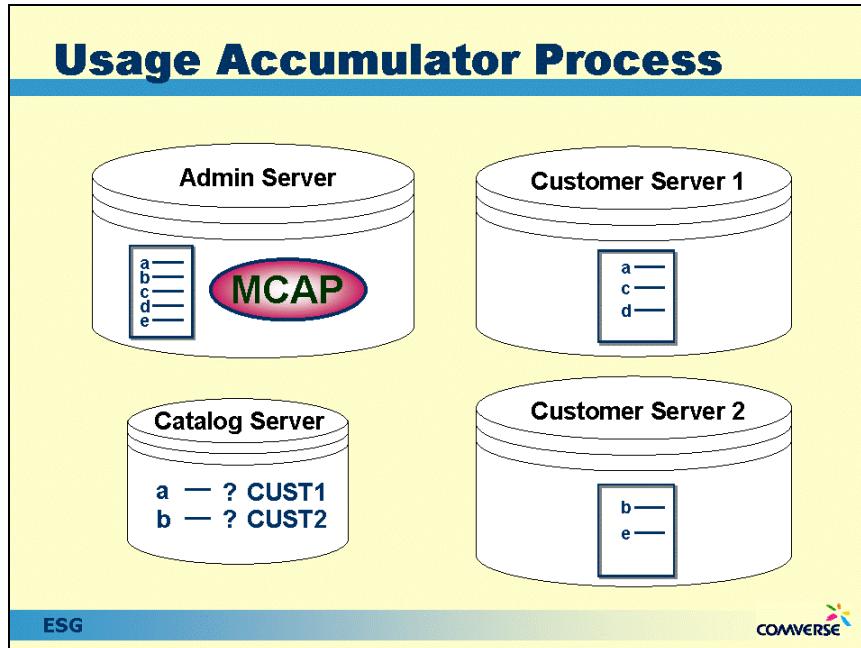
COMMUNICATIONS PROCESS



COM

COM runs against data on the Admin database. It brings the flat file containing the usage events into Kenan BP and places it in the UNIX directory structure.

USAGE ACCUMULATOR PROCESS



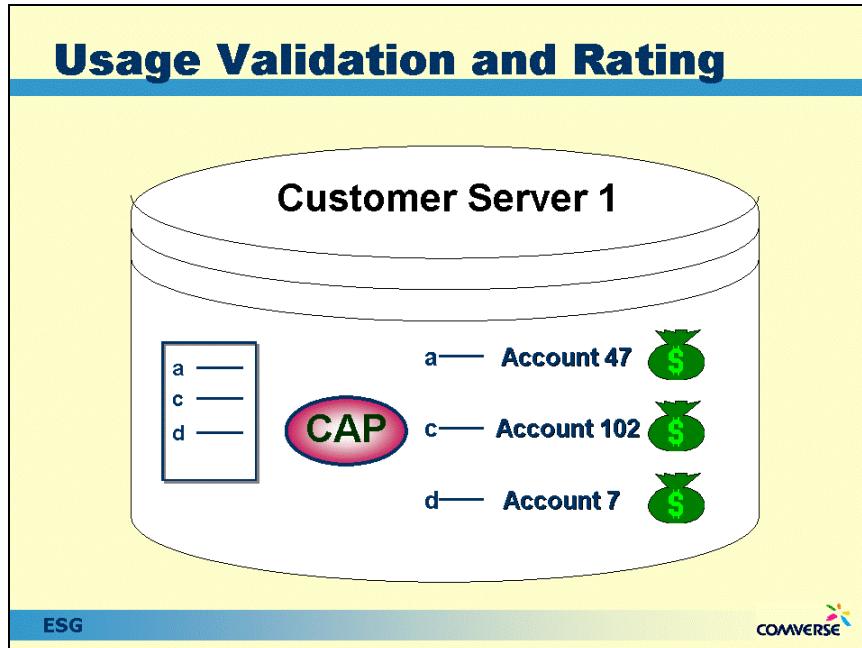
MCAP runs against data on the Admin and Catalog databases. Its job is to guide usage events to the correct database. To do this:

MCAP

1. MCAP locates the subscription External ID in the usage record.
2. MCAP queries the Catalog database to find the Customer database containing that subscription.
3. When MCAP finds a match, it writes a copy of that usage record to a flat file. It creates a different file for each Customer database.

If MCAP cannot locate an External ID match, it creates a separate flat file containing all unguided usage records.

USAGE VALIDATION AND RATING



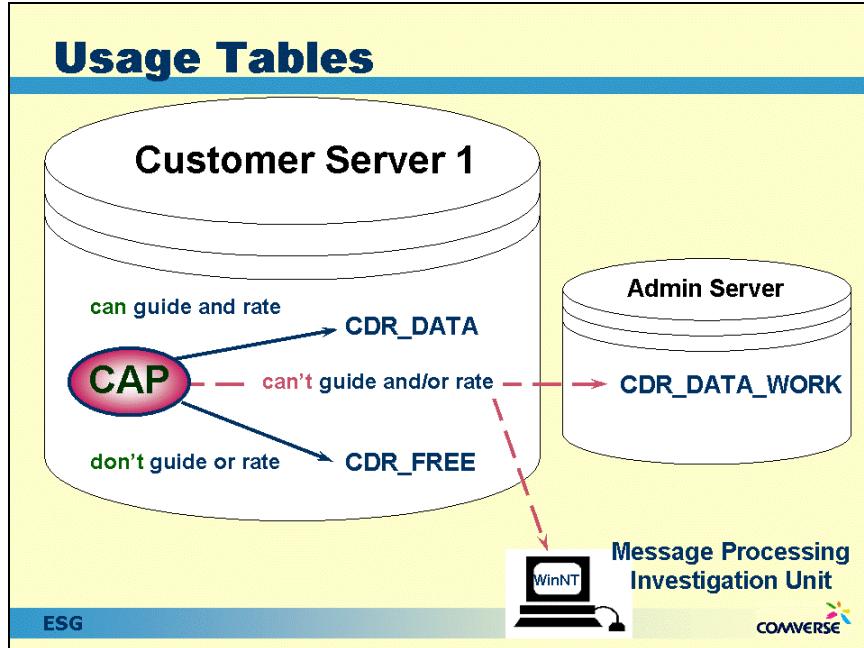
CAP runs against data on the Customer database. CAP validates the usage event against an account on the Customer database and determines a rate for the usage event. To do this, CAP:

**CAP (and
DUCM and
LTP)**

1. Verifies that the subscription External ID provided on the usage event is valid and active at the time the usage event occurred.
2. Verifies that the subscription has an RC attached to it that can validate usage events of the type provided.
3. If event-time unit credits are being used, sends the usage event to DUCM (Discount and Unit Credit Manager) for unit credit rating; compares and matches rating keys for the remainder of the event and determines a charge.
4. Writes the event to a flat file, which LTP (Long-Term Persistence—a continuously running process) later picks up and inserts into CDR_DATA.

The rated usage event is then called a *usage charge*.

USAGE TABLES



Where does
CAP write
the records?

When CAP successfully guides and rates usage events, it writes the usage charge to a flat file. LTP later inserts this data into CDR_DATA. This is the table from which each account draws unbilled usage.

Some usage events should not be guided or rated. These are free calls (i.e., emergency calls, test calls, etc.). CAP writes these records to CDR_FREE, also in the Customer database.

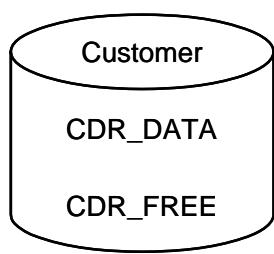
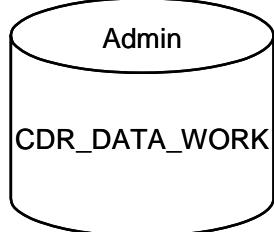
If CAP cannot guide or rate a usage event, it writes the record to CDR_DATA_WORK in the Admin database. Then the record can be examined and corrected using the Message Processing Investigation Unit (MIU).

EXERCISE: EXAMINE USAGE PROCESS STEPS

Task 1: Connect the processes on the left with their tasks on the right.

PROCESS	TASK
 COM	_____ checks the Admin database for the most current and correct usage rates.
 MCAP	_____ copies usage records into separate files for the appropriate customer database.
 CAP	_____ brings usage files into <i>Kenan/BP</i> . _____ changes the usage event into a usage charge. _____ runs against data in the Customer tables.
	_____ checks the Catalog database for the storage location of subscriptions in the usage records.

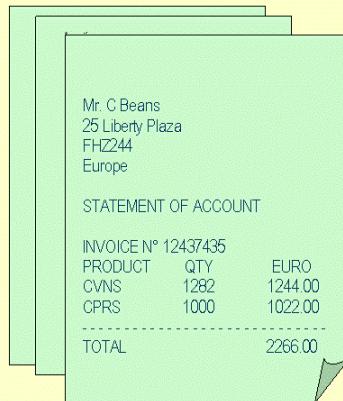
Task 2: Connect the tables on the left with their contents on the right.

TABLE	CONTAINS
 Customer CDR_DATA CDR_FREE	_____ usage records that are not rated. _____ information viewable on Invoice 0.
 Admin CDR_DATA_WORK	_____ usage records that can be accessed and corrected using the MIU _____ successfully rated usage records.

INVOICE PROCESSORS

Invoice Processors

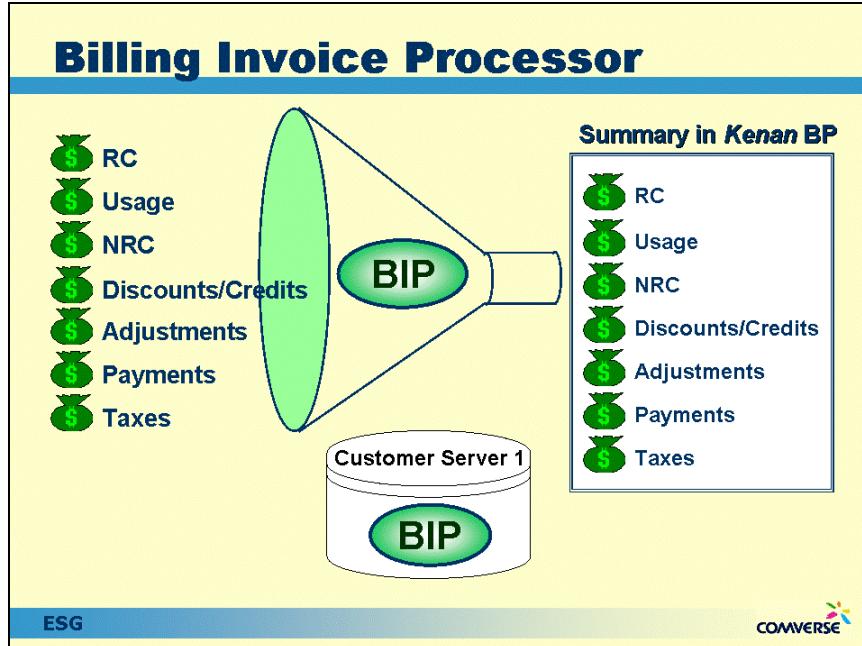
- **BIP**
- **BIFF**
- **BID**



ESG COMVERSE

BIP (Bill Invoice Preparer)	Runs on the Customer database. BIP gathers or calculates all charges for a bill cycle; applies outstanding payments or adjustments; calculates and applies discounts and unit credits; calculates and applies taxes; and assigns an invoice number.
BIFF (Bill Invoice Formatter)	Runs on the Customer database. BIFF takes data produced from BIP and creates two format images: one is dispatched to the customer, the other is viewable on-screen through Customer Center.
BID (Bill Invoice Dispatcher)	Runs on the Customer database. BID takes the dispatchable invoice formatted by BIFF and dispatches it. BID supports a variety of dispatch methods, however only one dispatch method is supported per installation.
Invoice Designer	<p>Runs on the customer database. Invoice Designer takes data produced by BIP and creates an invoice, allowing the user to create multiple invoice templates simply and quickly.</p> <p>Templates can be written in one language and output in many different languages, though not to as many devices as BIFF. It uses a language similar to HTML to place Kenan database objects onto a template. It is NT based.</p> <p>For more information about Invoice Designer, see the Guide to Invoice Design and the Technical Reference Guide.</p>

BILLING INVOICE PROCESSOR



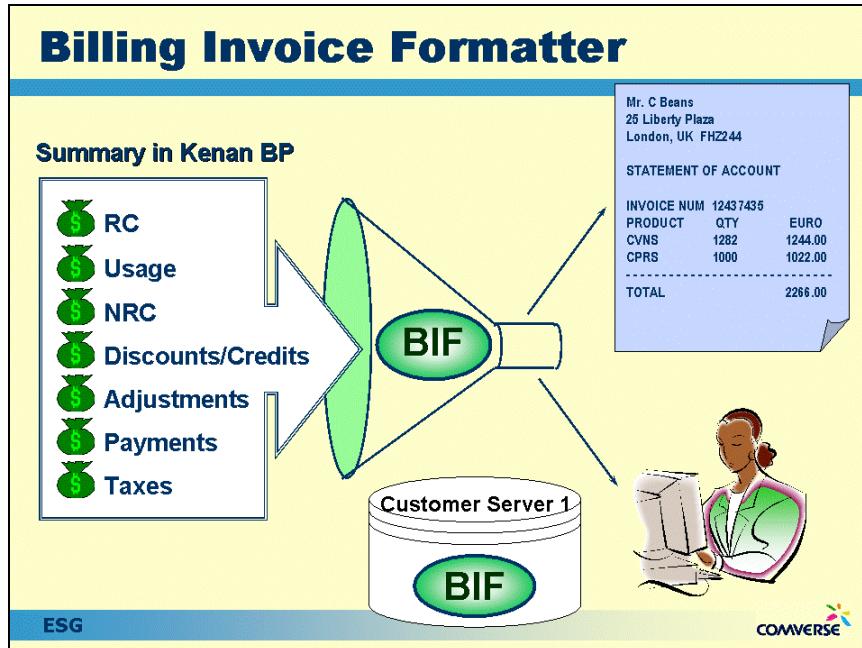
BIP

BIP calculates or gathers all charges for a bill cycle. It calculates a rate for RCs, but gathers charge information for NRCs and Usage. Then BIP:

- calculates and applies all discounts and unit credits
- applies any outstanding adjustments
- calculates taxes
- applies outstanding payments
- determines the invoice balance
- assigns a unique invoice number to the newly created invoice.

At this point, the invoice charges can be seen in Customer Center, but a viewable bill image does not exist.

BILLING INVOICE FORMATTER

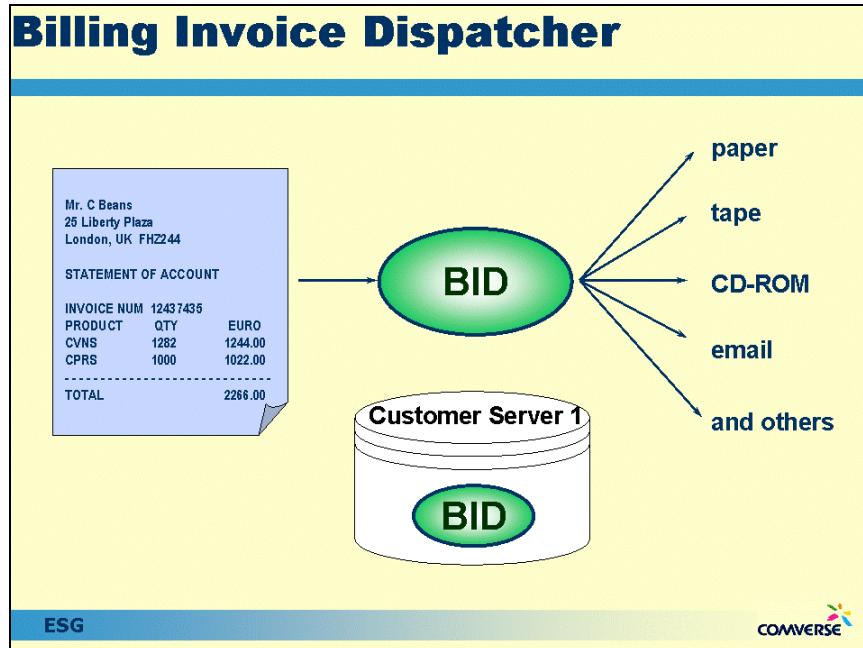


BIF

BIF takes the unformatted data from BIP and formats two different invoice images:

- One is formatted for dispatch to the customer
- One is a text version that can be viewed by the CSR through Customer Center. This text version is identical to the dispatch version except it does not show any special fonts or graphics.

BILLING INVOICE DISPATCHER

**BID**

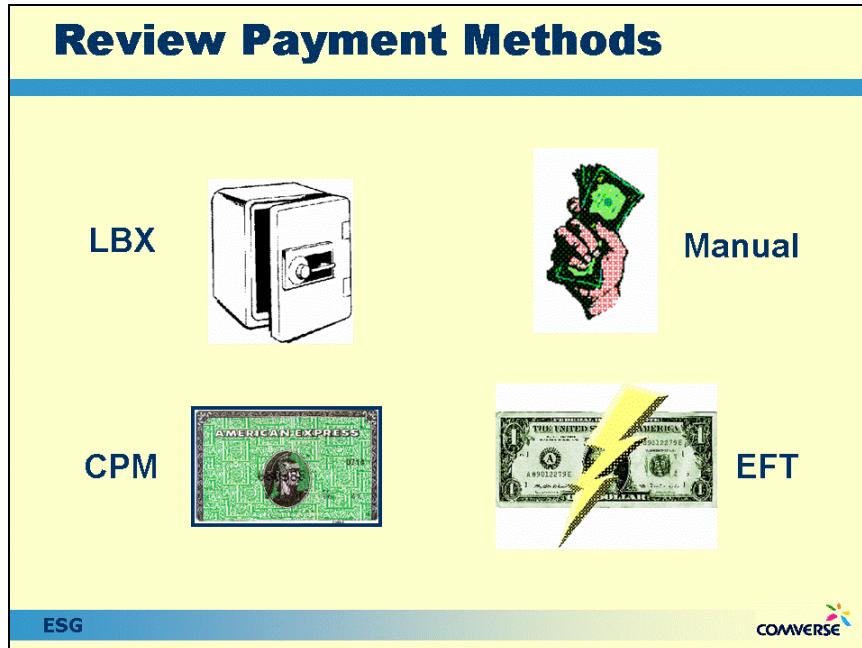
BID takes the dispatchable invoices, and dispatches them. BID supports several dispatch methods including those listed above, however only one dispatch method is supported per installation.

EXERCISE: EXPLORE INVOICE PROCESSES

1. Alone or with a partner, fill in the chart. You may consult your notes or classmates.
2. Compare and discuss your answers.

Task	What process does this task? <i>COM, MCAP, CAP, BIP, BIF, or BID</i>	Where does this process run? <i>ADMIN, CATALOG or CUSTOMER</i>	In which order should it run? <i>1, 2, 3, 4, 5, or 6</i>
Rates usage events.			
Summarizes charges and applies discounts and taxes.			
Sends the invoice to CD-ROM, tape, email, or a printer.			
Guides usage events to the customer server containing their subscription.			
Creates two files: one dispatchable invoice and one for on-line viewing.			
Brings usage files into Arbor from the mediation device.			

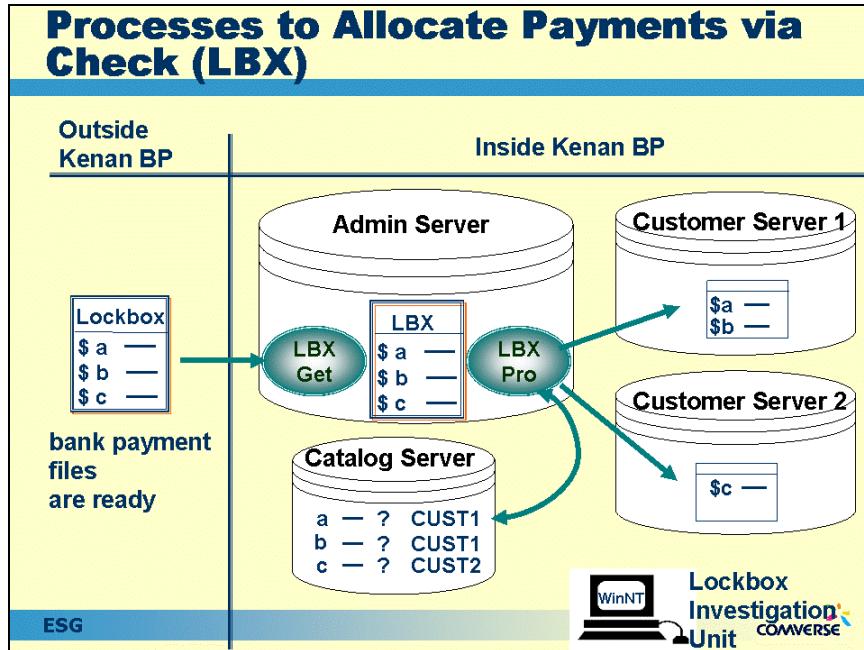
REVIEW PAYMENT METHODS



Payments can be received and processed at any time during the billing cycle. Kenan BP supports four types of payment methods.

- | | |
|---|---|
| Lockbox (LBX) | LBX payments are typically check payments processed by a third party lockbox bank. Kenan BP reads a file sent by the lockbox bank and posts the payments against account/invoice combinations. |
| Credit Card Payment Module (CPM) | CPM handles payments posted with credit card authorizations. CPM contacts credit card clearinghouses in order to charge the amount owed by each customer directly to his or her credit card account. CPM runs separately for each Customer server and handles charges only for accounts on that server. |
| Electronic Fund Transfer (EFT) | EFT payments allow for direct debits from a bank account. EFT is very similar to CPM. |
| Manual Payments | Payments by cash or check are posted to the account using Customer Center. |
| Real Time Credit Card (RTCC) | The fifth component of payments is Real Time Credit Card (RTCC). This is not actually a payment method, but is a way to validate and authorize credit card payments in real time. RTCC is used mostly for customers with Internet applications. RTCC must be custom developed outside of Kenan BP. |

PROCESSES TO ALLOCATE PAYMENTS VIA CHECK (LBX)



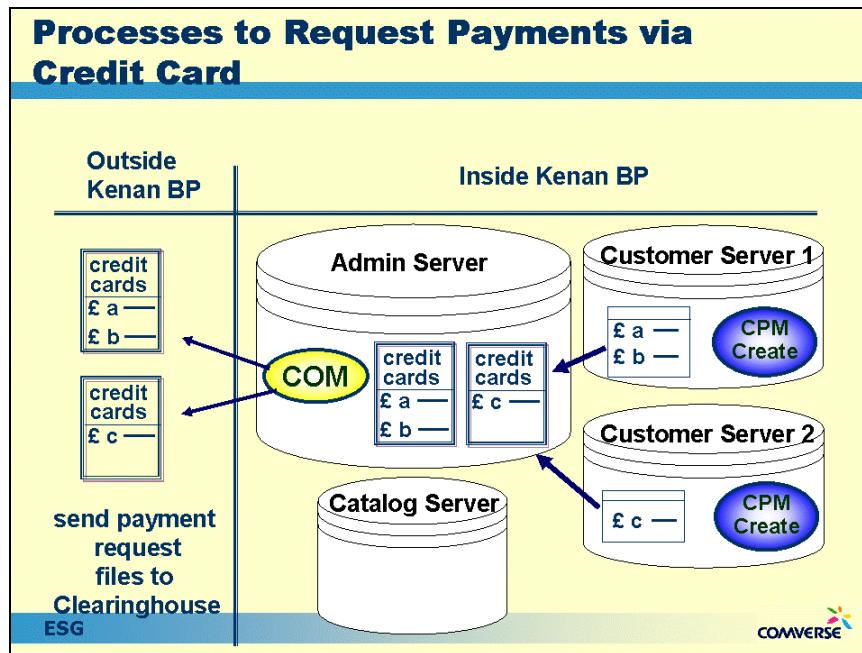
Steps to Allocate Payments via Check

1. Run BIP so any received payments can be posted on the invoice.
2. Run LBX Get or LBX Rcv to bring payment files from the bank into Kenan BP. The payment files have a payment amount and an account for each processed transaction.
 - LBX Rcv gets files from the bank using a modem or file transfer protocol (FTP).
 - LBX Get moves files into a local directory so LBX Pro can process them.
3. Run LBX Pro (Process) to allocate payments to the appropriate accounts. LBX Pro reads from the Catalog Server to determine which accounts are being paid.
4. Check LIU (LBX Investigation Unit) for payments that could be read, but not processed.

Lockbox Investigation Unit (LIU)

Most errors result from invalid invoice numbers or valid invoice numbers that did not match the account.
You can change account and/or invoice number to allocate the payment.

PROCESSES TO REQUEST PAYMENTS VIA CREDIT CARD (CPM)



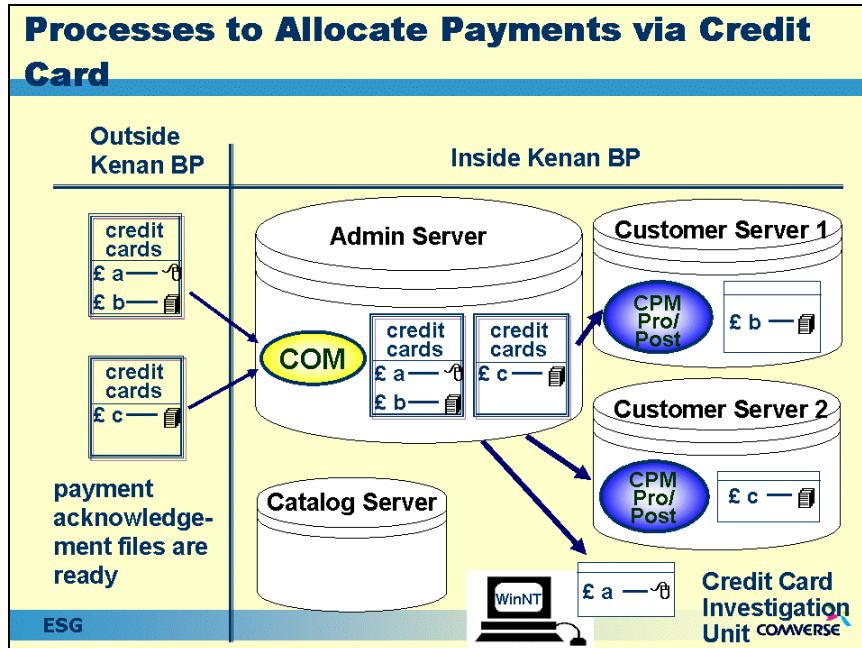
Three CPM Processes

- Run **CPM Create** to generate payment request files from the customer database(s) so you can send these to the bank or clearinghouse.
- Run **CPM Process or CPM Post**:
- Run CPM Process: If you want to wait to receive acknowledgement from the clearinghouse that the payment was accepted. Then run Process to allocate payments.
- Run CPM Post: If you want to wait for a bit, then assume that if you don't hear otherwise, the clearinghouse has accepted the payment. (No news is good news.) After waiting for a fixed amount of time (such as 2 days), run Post to allocate payments.

Steps to Request Payments via Credit Card

1. **Run BIP** for each Customer database to generate invoices and amount due.
2. OPTIONAL: **Run BIF** and dispatch the invoice so the customer knows what payment will be processed. Or the billing cycle for accounts paying by credit card can be put on hold until a payment confirmation is received from the clearinghouse.
3. **Run CPM Create** to create payment request files in Kenan BP.
4. **Run COM** to send the payment request files to a clearinghouse.

PROCESSES TO ALLOCATE PAYMENTS VIA CREDIT CARD



Steps to Allocate Payments via CPM or CPM Post

1. Wait to receive credit card clearinghouse response files for accepted and rejected payments. (Only for rejected payments if using Post.)
2. Run COM to bring the payment files processed by the clearing-house into Kenan BP.
3. Run CPM Process or CPM Post for each Customer database. Each process allocates payments to the appropriate accounts. The account is released to BIF if formatting was held until the reply file was processed.
4. Check CCIU (Credit Card Investigation Unit) for payments that could be read but not allocated to an account.
5. OPTIONAL: Run BIF to format invoices (if you didn't run BIF before).

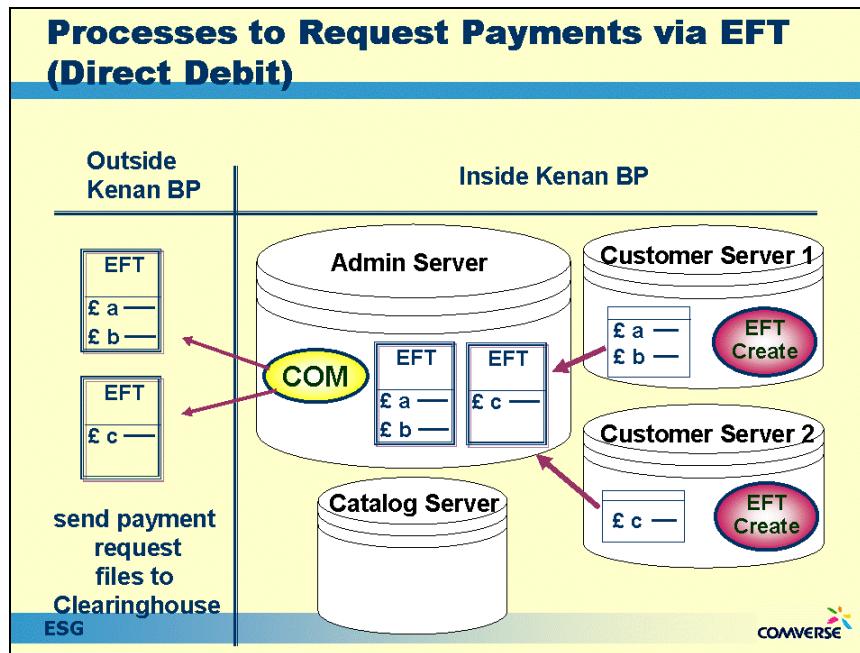
Credit Card Investigation Unit (CCIU)

Use CCIU to investigate rejected payments:

- Credit Holds (credits which must be confirmed)
- Manual Holds (charges that the clearinghouse cannot process)
- Declines (for a number of reasons such as exceeded credit limit)

In CCIU, you can make changes and re-submit payments. The next time you run CPM Create, the process will pick up this payment and put it in the standard request file.

PROCESSES TO REQUEST PAYMENTS VIA EFT (DIRECT DEBIT)



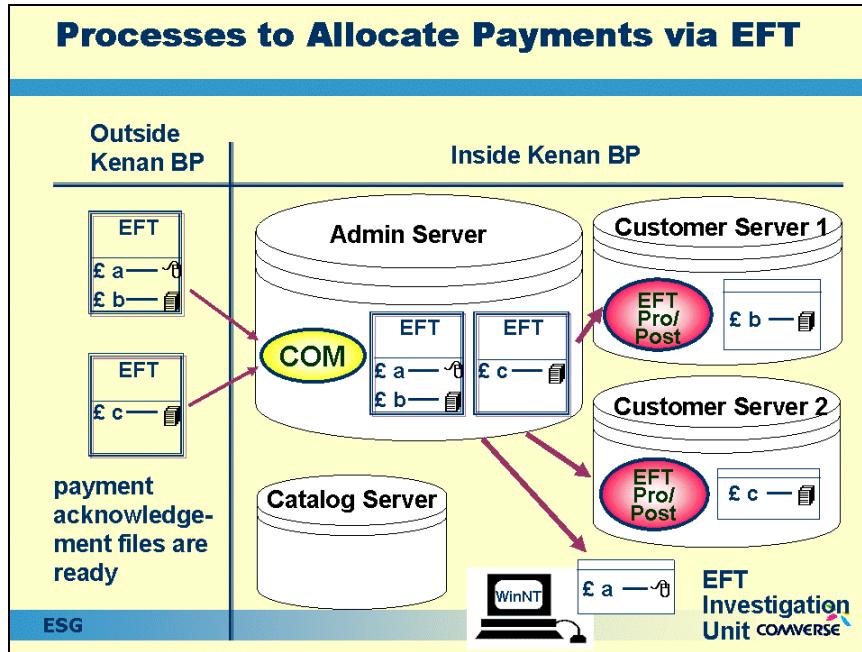
Three EFT Processes

- Run **EFT Create** to generate payment request files from the customer database(s).
- Run **EFT Process** or **EFT Post**:
 - Run EFT Process: If you want to wait to get acknowledgement from the bank or clearinghouse that the payment was accepted. Then run Process to allocate payments.
 - Run EFT Post: If you want to wait for a bit, then assume that if you don't hear otherwise, the bank or clearinghouse has accepted the payment. After waiting for a fixed amount of time (such as 2 days), run Post to allocate payments.

Steps to Request Payment via EFT

1. **Run BIP** for each Customer database to generate invoices and amount due.
2. OPTIONAL: **Run BIF** and dispatch bills so the customer knows the amount for which they will be debited. (Do this if you won't wait for acknowledgement before processing payments.)
3. **Run EFT Create** to generate payment request files in Kenan BP for those accounts paying by EFT. **Run COM** to send files to a bank or clearinghouse for processing.

PROCESSES TO ALLOCATE PAYMENTS VIA EFT



Steps to Allocate Payments via EFT or EFT Post

1. Wait for the bank or clearinghouse to send response files for accepted or rejected payments. (Only for rejected payments if using Post.)
2. Run **COM** to bring the acknowledged payments processed by the clearinghouse into Kenan BP.
3. Run **EFT Process** or **EFT Post** for each Customer database and EFT allocates payments to the appropriate accounts.
4. Check **EIU** (EFT Investigation Unit) for payments that could be read but not allocated to an account.
5. OPTIONAL: Run **BIF** to format invoices (if not already done).

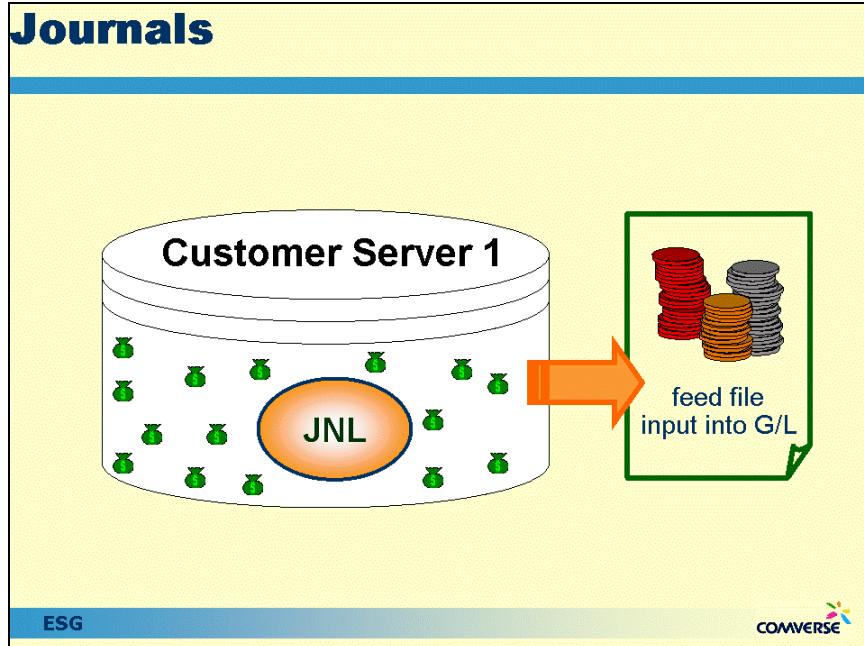
Electronic Funds Investigation Unit (EIU)

EIU contains successful and unsuccessful EFT transactions. You can edit EFT fields such as Bank Name or Bank Code. You can also Hold or Resubmit a record.

Common errors are:

- Bank account is closed.
- No required pre-note was sent. A pre-note is a zero amount transaction that verifies that a company has access to the account. (Not all countries require pre-notes.)
- Bank information is incorrect.

JOURNALS



JNL	JNL is the Kenan BP journalizing process. Journalizing is a cyclical activity run between bill cycles. JNL collects all of the charges that exist on a Customer database and outputs them into a single feed file . The feed file can be imported into a general ledger (G/L).
Transactions	In each journal period, all new transactions are reported as Standard or Accrual <ul style="list-style-type: none"> ▪ Standard journals are billed and earned transactions. Accrual journals are unbilled and/or unearned transactions. ▪ Accrual transactions from last journal period are reversed and recreated as standard journal transactions.
Journalized Charges	The charges that are journalized are configurable. The client decides which charges are to be journalized and configures this in the Admin database.
For More Information	Attend the Kenan BP <i>Journals Processing</i> course. Refer to the Journals Guide documentation for full details on the process.

EXERCISE: MAP BACKGROUND PROCESSES

With a group or partner, review the function of each billing process:

BIP	COM	LBX	JNL
BIF	MCAP	CPM	BID
CAP	EFT		

For each process, show:

- The order in which they happen
- The tables they reference or update
- The number of times they are likely to run in a given time period for a group of accounts.
- The work they create and the work they need

Design your own visual representation of how and when these processes enter and affect the life of an account.

You may make a list, chart, map, drawing - whatever you like.

REVIEW BACKGROUND PROCESSES

Review Background Processes

- **Usage Processing**
 - ✓ COM, MCAP, CAP
- **Invoice Processing**
 - ✓ BIP, BIF, BID
- **Payment Processing**
 - ✓ LBX, CPM, EFT
- **Additional Financial Processing**
 - ✓ JNL

ESG 

For More Information: Additional details are covered in the Kenan BP Payments Processing, Kenan BP Journals Processing, Kenan BP Advanced Collections, and Kenan BP Usage Processing courses.

Also consult the **Configuration Guide Vol. 1**, **Billing Operations Guide**, and the **Technical Reference Guide**.

Kenan[®]BP **Fundamentals** **Appendix**

Table of Contents for the Appendix

Glossary of Acronyms	1
Glossary of Terms.....	4
Table Flow to Define a Service Type	12
Table Flow to Define an RC	13
Table Flow to Define an NRC	14
Table Flow to Define a Usage Type	15
Table Flow to Define a Discount.....	16
Table Flow to Define a Contract	17
Table Flow to Define a Package.....	18
Steps to Plan a Package	20
Worksheet for Service Type Tables	23
Worksheet for RC Tables	25
Worksheet for NRC Tables	27
Worksheet for Usage Tables.....	29
Worksheet for Discount Tables	33
Worksheet for Unit Credit Tables.....	35
Worksheet for Contract Tables.....	37
Worksheet for Package Tables	38
Activity 1. Practice Creating Diagrams for Eligibility	41
Activity 2. Define Eligibility for Communicacio del Mundo.....	42
Activity 3. Set Up Rating Keys for Communicacio del Mundo.....	44
Activity 4. Define Service Type Attributes for ABC	45
Activity 5. More Practice with Attributes and Rating	48
Activity 6. Explore PRODUCT_ELEMENTS	50
Activity 7. Explore RATE_RC.....	51
Activity 8. Explore NRC_TRANS_DESCR	52
Activity 9. Explore DISCOUNT_DEFINITIONS	53
Activity 10. Explore RATE_DISCOUNTS.....	54
Activity 11. Explore CONTRACT_TYPES	55
Activity 12. Practice Modeling Contracts	56
Activity 13. Model a Cable Package	57
Activity 14. Bring Order to a World of Chaos	59
Activity 15. ESG Package Challenge	60
Activity 16. Kenan/BP Crossword Puzzle.....	62

Glossary of Acronyms

NOTE:	<i>The Kenan/BP software was known as Arbor/BP before March 1, 2002. You will see references to Arbor in older documentation.</i>
NOTE:	<i>Configurator was known as Arbor Configuration Environment, or ACE, prior to version 1.7. You may see references to ACE in existing documentation.</i>
AID	Previously known as Arbor Invoice Designer, it is now Invoice Designer: A module in <i>Kenan/BP</i> that allows the client to simply and quickly configure invoice templates by using the XML language and table objects.
API	Application Program Interface. A set of software subroutines that can be used to allow external applications to interface with <i>Kenan/BP</i> .
ARCH	Archiver. A process within <i>Kenan/BP</i> that can archive, restore, count and delete billing data for old invoices from the database tables.
ATM	Arbor Table Maintenance. An interface within <i>Kenan/BP</i> (versions 8.5 and earlier) that allows direct editing of the configurable database tables.
BBUE	Billed But Unearned. Type of accrual entry that includes advance payment of recurring charges and/or estimates for unrated usage events.
BIB	Bill Invoice Browser. An interface within <i>Kenan/BP</i> that allows browsing of all available invoices or a selected list of available invoices.
BID	Bill Invoice Dispatcher. A process within <i>Kenan/BP</i> that takes the formatted invoices and dispatches them via paper, tape, email, etc.
BIF	Bill Invoice Formatter. A process within <i>Kenan/BP</i> that turns the virtual invoice into a dispatchable file. BIF also creates an ASCII representation of the invoice for viewing on line.
BIP	Bill Invoice Processor. A process within <i>Kenan/BP</i> that accumulates charges; calculates discounts, adjustments, credits and taxes; creates virtual invoice; updates account balances; notes balances for EFT or credit card payers for future processing.
CAP	CDR Accumulation Processor; the usage guider and rater. A process within <i>Kenan/BP</i> that guides a usage record to a specific account and determines the charge for the usage event.
CCIU	Credit Card Investigation Unit. An interface that allows for investigation of rejected or non-routed credit card payments.
CDR	Call Detail Record. A usage event
CIUC	Cycle Independent Unit Credits. The free units associated with this type of unit credit plan may persist across bill periods.
CMF	Customer Master File. Dynamic table where most of the information about an account is stored. Used in bill preparation, rating, taxing, formatting and dispatching.

Glossary of Acronyms

COM	Communications process. A process within <i>Kenan/BP</i> that collects data files from an external source and copies those files into <i>Kenan/BP</i> . COM is used to import and export such files for usage, direct debit payments, and credit card payments.
CPM	Credit Card Payment Module. A process within <i>Kenan/BP</i> that processes information going to and coming from credit card authorization centers.
CSR	Customer Service Representative. Common user of <i>Kenan/BP</i> .
CUSTIN FO	An interface within <i>Kenan/BP</i> that allows access to many Customer Care activities.
EBUB	Earned But Unbilled. Type of accrual entry that includes NRCs, adjustments and usage charges that have occurred but have not yet appeared on a bill.
EFT	Electronic Fund Transfer. A process within <i>Kenan/BP</i> that allows an account's bank to be debited the amount of a bill.
EIU	EFT Investigation Unit. An interface within <i>Kenan/BP</i> that allows for investigation of all EFT transactions.
EMF	Equipment Master File. Dynamic table where subscription information is stored. Associates the subscription with the account.
IGEN	Previous name for Invoice Designer
JNL	Journal. A process within <i>Kenan/BP</i> that collects all of the charges that exist on a Customer database and outputs them to a flat file that can be imported into a general ledger.
LBX	Lockbox. A process within <i>Kenan/BP</i> that brings files into <i>Kenan/BP</i> and posts payments to the appropriate accounts.
LIU	Lockbox Investigation Unit. An interface within <i>Kenan/BP</i> that allows for investigation of rejected or non-routed lockbox payments.
MCAP	Multi-server CDR Accumulation Processor; the usage router. A process within <i>Kenan/BP</i> that uses the external ID to attempt to match each usage record to the Customer database that contains the required data. If a match is found, MCAP writes the usage record to a file on the appropriate customer server.
MIU	Message Investigation Unit. An interface within <i>Kenan/BP</i> that allows for investigation of usage charges that cannot be guided and/or rated.
MPS	Message Processing System. Collective name for COM, MCAP and CAP processes within <i>Kenan/BP</i> .
MBEM	Main Billing Event Manager. A process within <i>Kenan/BP</i> that acts as a "hub", routing messages from the interface(s) to the SBEMs. One instance must be running per installation.

Glossary of Acronyms

NRC	A one-time charge, such as a returned check fee, installation fee, or equipment purchase. May be applied at either the account or subscription level.
RAP	Remote Accumulation Processor; the usage rater. A utility within <i>Kenan/BP</i> that is used to re-rate usage.
RC	Recurring charge. A fee that repeats at a regular interval.
RTCC	Real Time Credit Card. A server that contacts credit card clearinghouses to validate and authorize payments scheduled through a customer's credit card.
SBEM	Sub-BEM. A process within <i>Kenan/BP</i> that is responsible for initiating the actual <i>Kenan/BP</i> processes and keeping track of their status. Tracks via signals and the UNIX message queue mechanism. An arbitrary number of SBEMs may be used per host, but typically one SBEM per physical machine hosting a <i>Kenan/BP</i> Customer database is needed.
TIP	Table-Driven Input Process. A utility that translates wireless data format to <i>Kenan/BP</i> format and vice versa.
TOP	TAP2 Output Processor. A utility that converts wireless usage information into an industry standard format.
UTL	Utilities. A process within <i>Kenan/BP</i> that allows for the running of a variety of utility processes.

Glossary of Terms

A-end	One endpoint of a leased line.
A la carte product	A product provisioned to an account or subscription directly, not through a product package component.
Account	A billable entity, often representing a customer.
Account category	A key field representing the type of account.
Account hierarchy	A set of accounts that own one another, often representing a set of departments of a single corporate entity.
Account ID	The alphanumeric identifier(s) associated with an account.
Account segment	A code that controls which CSRs can view an account's information.
Accrual journal transaction	Type of journal transaction containing unbilled and/or unearned transactions.
Activation charge	A non-recurring charge applied when a contract is first activated.
Additional unit rate	Per-unit rate added to the fixed charge for a rated usage event.
Adjustment	Credit or debit that adjusts the amount of a specific charge, or a miscellaneous credit that decreases the amount of an invoice.
Adjustment reversal	A special adjustment that modifies existing adjustments.
Admin database	<i>Kenan/BP</i> database that stores products, rates, file status and exception tables.
Advance billing	The practice of charging a customer for services before they are rendered. See also Arrears billing.
Aggregate usage rate	Rate structure based on cumulative usage over a billing period.
Arbor	The name by which <i>Kenan/BP</i> was known before March 1, 2002.
Arbor Configuration Environment (ACE)	An interface within <i>Kenan/BP</i> (as of 9.1) that allows direct editing of the configurable database tables. Known as ACE or Configurator.
Arbor Table Maintenance (ATM)	An interface within <i>Kenan/BP</i> that allows direct editing of the configurable database tables. Known as ATM.
Arrears billing	The practice of charging a customer for services after they are rendered.
Associate	The process of determining the account or subscription that owns a set of charges or other features.
Attribute	A quality or essential characteristic of an entity.
B-end	One endpoint of a leased line.
B-number	Target number of a usage event.

Glossary of Terms

Backout	The process of undoing a calculated but not-yet-dispatched invoice, in case of error.
Banded rates	Rate structures consisting of more than one rate, such that the selected rate depends on the number of rated units.
Bill class	Defines specific classes of usage. For example, usage of different priorities or grades of service could be rated with different rates.
Bill format code	Unique identifier of a bill format option value.
Bill period	Groups all customers that are part of the same cyclical billing stream.
Billing frequency	Describes the periodicity for the bill cycle (e.g., monthly, quarterly, yearly).
Bulk discount	(Tapered discount) Applied to the entire amount of the charge once past a specified threshold. An example bulk discount would give 10% off all usage charges if the customer has more than \$100 in charges for the bill cycle.
Catalog database	A <i>Kenan/BP</i> database that maps external IDs to accounts and subscriptions on the Customer databases. Also contains the server definitions.
Charge	A valid combination of a charge type and a rate. Non-recurring charges have a non-recurring charge type and one or more non-recurring rates; usage charges have a usage type and one or more usage rates; and recurring charges use individual products as the charge type and have one or more recurring rates.
Charge types	The various categories of charges that are defined by the client. Charge types vary by industry and by company.
Child account	Account in a hierarchy that has a parent account. A single parent account can have an unlimited number of child accounts.
Class of service	Specifies a particular service class of subscriptions to which products can be associated.
Command Center	Web-based interface used to suspend, restart, abort, and configure billing processes, monitor the process status table, and view alert and warning messages.
Commitment contract	Type of contract (see Contract) where the account commits to a minimum charge.
Component	See Product Package Component.
Component definition	Defines which components are available for inclusion in a product package.

Glossary of Terms

Configurable table	Table that will change as your business and marketing needs change. Tables that contain product configurations, rates, services types, etc. are all configurable.
Configurator	The graphical user interface used to view and edit configurable or dynamic tables in <i>Kenan/BP</i> . (Previously known as ACE and ATM.)
Contract	Uniquely identified time-based promotion.
Convergence	Capability of offering more than one type of service to accounts, while providing a single bill for those services.
Corridor discount plan	Causes usage falling within the defined corridor to be rated normally by CAP, ignoring the corridor and using rate key information to select a rate.
Corridor discounting	Refers to two distinct uses of corridor plans for discounting: corridor plan discounting and double-rating corridor plans.
Corridor plan groups	Allow the creation of multiple ready-to-provision instances of existing corridor rates, which may then be quickly provisioned to a customer either as is or with modification. May include corridor discounts.
Corridor rates	Special rates applied to usage events based on the individual account and the target and origin points.
Credit plan	Also called corridor plans or usage rating corridors.
Currency code	See Unit Credit Plan.
Customer database	Specifies the currency to be used.
Customer database	<i>Kenan/BP</i> database that contains a slice of dynamic customer and billing information and a read-only copy of information on the Admin database.
Discount	A method of automatically reducing the payable amount of a charge.
Discount plan	A set of one or more individual discounts that, together, make up an assignable entity.
Discount rate	Discount percentage for a particular combination of discount definition, rate class, billing frequency, and charge threshold.
Discount restriction	Associates a given discount with one or more restriction parameters, each of which defines a restriction or exclusion within a particular domain (e.g., usage charges).
Discount target	Specifies which groups of products, product lines, service providers, and/or charges a discount is to be applied.

Glossary of Terms

Double-rating corridor plan	Discounting method that rates the usage event twice, once without the corridor and once with, calculating and storing both rates. The savings (the difference between non-corridor and corridor rating) can be displayed on the invoice along with the rate charged.
Dynamic table	Table that will grow as your customer base grows. Tables that contain account information, usage data, and billing records are dynamic.
Eligibility	Factors that determine whether a particular entity is able to be provisioned to a particular account or subscription.
Equipment	See Subscription.
Equipment class	Identifies a specific class of subscription with which a product can be associated.
Equipment type	Defines the types of subscription with which a product can be associated.
External ID	A number used by <i>Kenan/BP</i> when identifying accounts when interacting with external systems. This is the number that is recorded on the CDR or file retrieved from the mediation device. An account or subscription may have multiple external IDs. They will generally be representative of the type of service the customer is receiving.
Fixed charge	A fixed or flat charge per usage event.
Great circle rating	Method of rating usage event based on the curvilinear distance between the latitude and longitude coordinates of two points. This is accomplished using a mathematical algorithm.
Headquarters discounting	Calculates discounts for a group of accounts, known as the HQ discount group. At the end of the billing period, charges for all accounts in the group are added together, and the discount is applied to the sum of the charges.
Hierarchy	See Account Hierarchy.
Incremental discount	Tiered discount. Discount in which the charge is broken up by discrete thresholds with a discount applied to each increment. An example of a tiered discount would give 10% off all usage charges between \$100 and \$200, and 15% for usage over \$200 in the bill cycle.
Individual-case-basis (ICB) rating	Assigning rates for products and services that are negotiated on a per-customer basis. Allowed for both account-level and service-instance-level products provisioned to a customer. Also called ICB rating.

Glossary of Terms

Invoice Designer	A module in <i>Kenan/BP</i> that allows the client to simply and quickly configure invoice templates by using the XML language and table objects. (Previous version was known as iGEN or Invoice Generator.)
Invoice Generator	See Invoice Designer.
Item threshold	Based on the total number of items for which there are applicable usage charges, e.g., the number of email messages sent in a month.
Internal ID	A unique ID number generated by the Customer Care interface during provisioning. Used to identify accounts and subscription for internal operations.
	Each account has an internal ID known as account_no in the CMF table. Each subscription has internal ID identified by the subscr_no and subscr_no_resets in the EMF table.
Jurisdiction	Territorial range of the usage event, e.g., interstate, intrastate. Acts as an optional key into the usage rating and rate period tables, so that different rates can be applied for different jurisdictions.
Key	A field in a table whose value is compared to the value of a specific field in a customer's product.
	Typically, you must have a rate defined for each unique set of keys.
Language code	Determines the language to be used in descriptions and other text.
Launcher	A window for accessing the available NT interfaces: Customer Information interface, various CSR supervisor functions, the Tickler Memo System, and the Reports interface.
Lockbox	A check clearinghouse, usually associated with a bank.
Market code	An arbitrary customer designation, such as gold or platinum customer, which may be left NULL.
Members	See Product Package Component Members.
Non-recurring charge	A one-time charge, such as a returned check fee, installation fee, or equipment purchase. May be applied at either the account or subscription level.
NRC type group	Defines different groups of non-recurring charges.
Open item	A mechanism for allocating payments to specific line items on an invoice. Open items may be defined as a particular service provider, service type, charge type, etc. Payments can be applied directly to these open items. Open items can also be prioritized to receive surplus payments in a certain order.
Open item ID	The unique identifier of a specific open item. The open item ID may be associated to a particular service provider, service type, charge type, etc.

Glossary of Terms

Package definition	Bundles together product elements and contracts into single entities that may then be provisioned to an account or subscription as a package.
Parent account	An account in a hierarchy that has child accounts associated with it. There can only be one parent account to any given child account.
Point category	Used to prevent overlap between different types of usage points.
Point class	A collection of usage points, e.g., area codes, states, specific databases, or document classes.
Product element	A recurring charge.
Product group	Groups multiple product lines.
Product line	Associates a product element with one or more other product elements. Alternatively, a product element may belong to a product line of which it is the only member.
Product package	A promotional grouping of recurring charges and contracts. Allows for easier provisioning of a standard group of components. Must be provisioned at the account level.
Product package component	Consists of one or more members (product elements or contract types). All members of a given component are required to have the same level code (account or subscription).
Product package component members	Usually referred to as “component.”
Property	Product elements and contract types which comprise a product package component.
Provider class	A single aspect of a configurable entity. Usually, each property is implemented as a single database field of the same name, but this is not necessarily the case. Sometimes the property name differs from the field name for the sake of clarity, a single property is implemented in more than one database field, or several properties are controlled by a single database field.
Provision	Describes a class of service provider.
Ratable unit class	Assignment of a <i>Kenan/BP</i> entity to a specific account or subscription.
Rate	Lists and describes usage type units (e.g., KB for kilobyte).
	A row in one of three rate tables (RATE_RC, RATE_NRC, or RATE_USAGE) that is associated with a specific charge type and a number of other key fields.
	You may define rates for a given charge type; the combination of charge type and key fields determines the exact rate that will be applied in a given situation.

Glossary of Terms

Rate class	Differentiates classes of subscriptions and accounts for rating purposes. For example, rate classes could be defined as business and individual, allowing business and individual subscribers to have different rates for the same product or service.
Rate corridor	Method of applying special point-based ratings to customers on an individual basis. Corridors can be point to point, point to prefix or prefix to prefix.
Rate period	Defines a specific time and discount for usage during that time period.
Rating	The process of associating a charge to a particular charge entity.
Rating key	The factors that determine the amount of a charge when rating occurs.
Recurring charge	A charge that is assessed at regular intervals, such as a subscription fee.
Service instance	See Subscription.
Service provider	Used to identify the vendor of a product. A specific service provider is associated with each product element, usage type, and non-recurring charge type.
Service type	Indicates the type of network over which service will be delivered.
Standard journal transaction	Type of journal containing billed and earned transaction.
Subscription	A specific network delivery point for a product or service being used by an account. For example, a telephone line, a login account for an online service, or an end point in a leased line network.
Switch	Synonymous with “equipment” and “service instance.” Hardware, external to <i>Kenan/BP</i> , which collects and stores usage events. Information from the switch can be brought into <i>Kenan/BP</i> using the COM process. See COM.
Tapered discount	See bulk discount.
Tiered discount	See incremental discount.
Unit credit	Discounts restricted to usage charges that are applied in the form of free usage.
Unit credit definition	Defines the usage charges to which a unit credit applies and how it reduces them.
Unit credit discount	See Unit Credit.
Unit credit plan	A plan made up of one or more unit credit definitions.

Glossary of Terms

Unit credit rate	Contains rebate rate or number of free units for a valid unit credit definition.
Unit credit restriction	Defines a restriction or exclusion of a particular type applies to a specific unit credit.
Unit-dependent rate	Variable depending on the length or number of units associated with a subscription. A unit-dependent rate may have a fixed charge component, called a standing charge, in addition to a variable component based on the unit measure.
Unit-independent rate	Denote a fixed charge that does not vary by the size, length, or number of any other type of unit measure associated with a subscription.
Unit threshold	Based on the total number of units for which there are applicable usage charges, e.g., the number of minutes of usage to a particular jurisdiction each month.
Usage jurisdiction	See Jurisdiction.
Usage point	An origin or target (destination) of usage, e.g., phone numbers or document numbers. Usage points must be associated with a jurisdiction.
Usage rating corridor	See Corridor Rates.
Usage record	Record of an individual usage event. Also referred to as a message.
Usage type	Category of usage such as long distance phone calls, direct dial phone calls, network logins, or document downloads.
Usage type group	A group of usage types, e.g., the set of all usage types associated with long distance phone calls. Usage must be grouped into usage type groups before it can be associated with a product element, even if the group contains only one usage type.
Validate	To prove acceptability.
Vertical and Horizontal Rating	Rating based on the vertical and horizontal (V&H) coordinates of the origin and target points of a usage event or based on the endpoints of a leased line. Also called V&H rates.

Table Flow to Define a Service Type

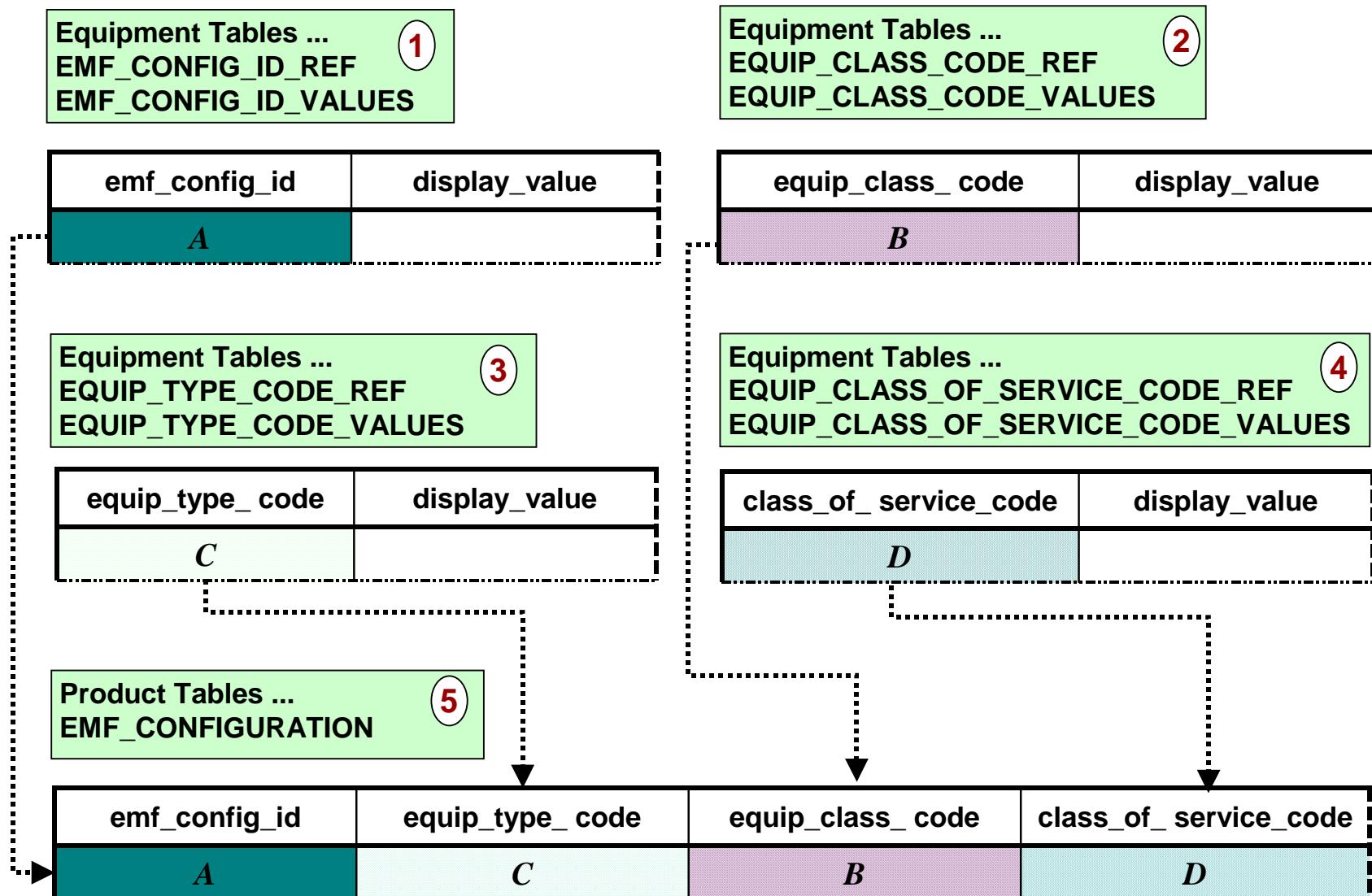


Table Flow to Define an RC

General Tables: DESCRIPTIONS 1

description_code	description_text
F	

Product Tables: PRODUCT_ELEMENTS 2

element_id	description_code	equip_type_code	rate_equip_type	equip_class_code	rate_equip_class	class_of_service_code	rate_class_of_service
G	F	H	I			J	

date_active	date_inactive	bill_in_arrears	level_code	rate_rate_class	currency_code
					F

Rating Tables: RATE_RC 3

rate_class	element_id	component_id	equip_type_code	equip_class_code	class_of_service_code	currency_code	rate
	G		H	I	J	F	

Table Flow to Define an NRC

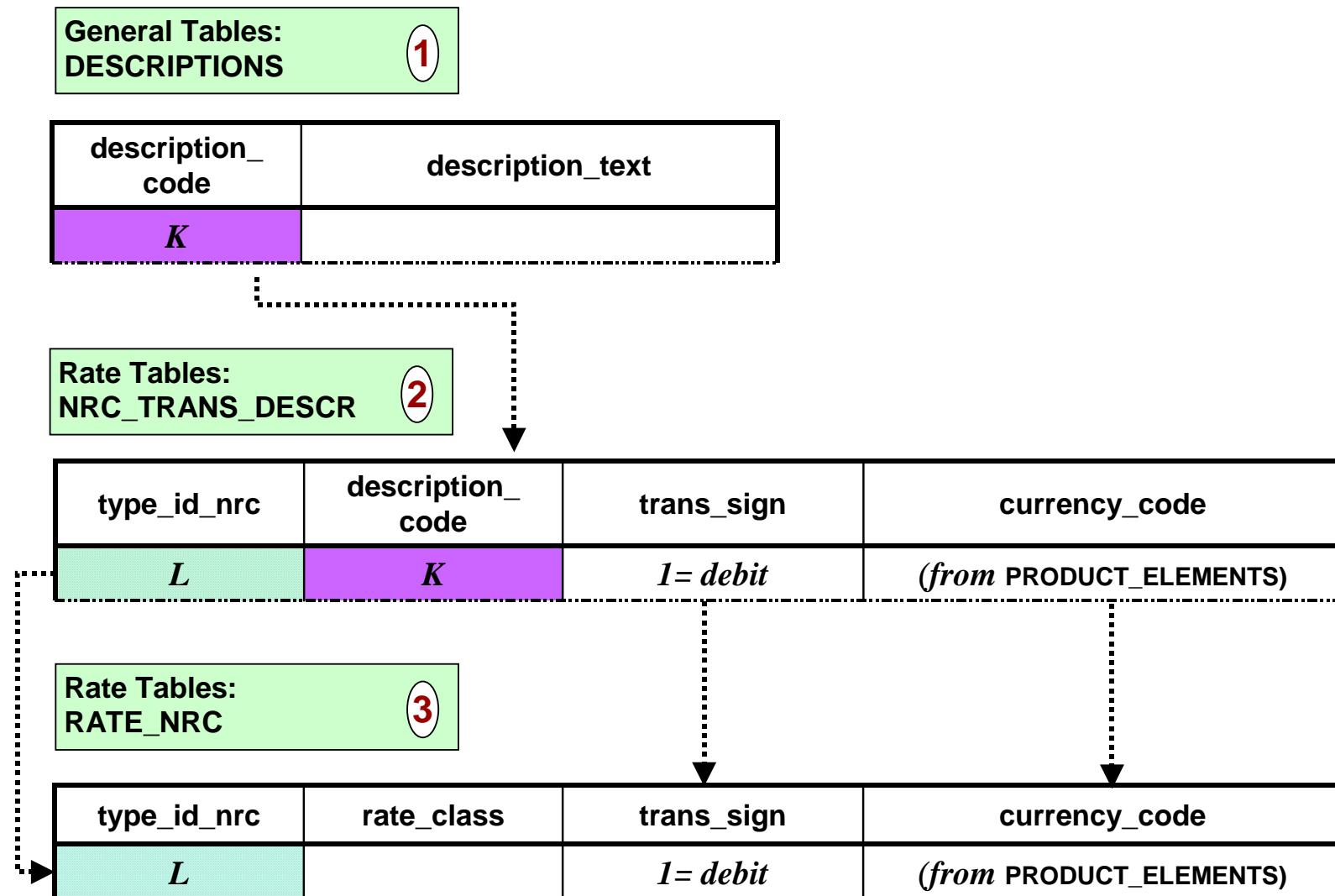


Table Flow to Define a Usage Type

General Tables: DESCRIPTIONS		1
description_code	description_text	
M		

MPS Tables: USAGE_TYPE_GROUPS			5
type_group_usg	type_id_usg	description_code	
	N	M	

MPS Tables: USAGE_TYPES						2
type_id_usg	description_code	use_rate_period	use_element_id	use_rate_class	currency_code	
N	M					

MPS Tables: USAGE_TYPES_UNITS						3
type_id_usg	rate_class	free_usg	equip_type_code	equip_class_code	class_of_service_code	
N		0 = normal				

MPS Tables: RATE_USAGE and RATE_USAGE_BANDS					4
type_id_usg	rate_class	currency_code	fixed charge	add_unit_rate	
N					

Table Flow to Define a Discount

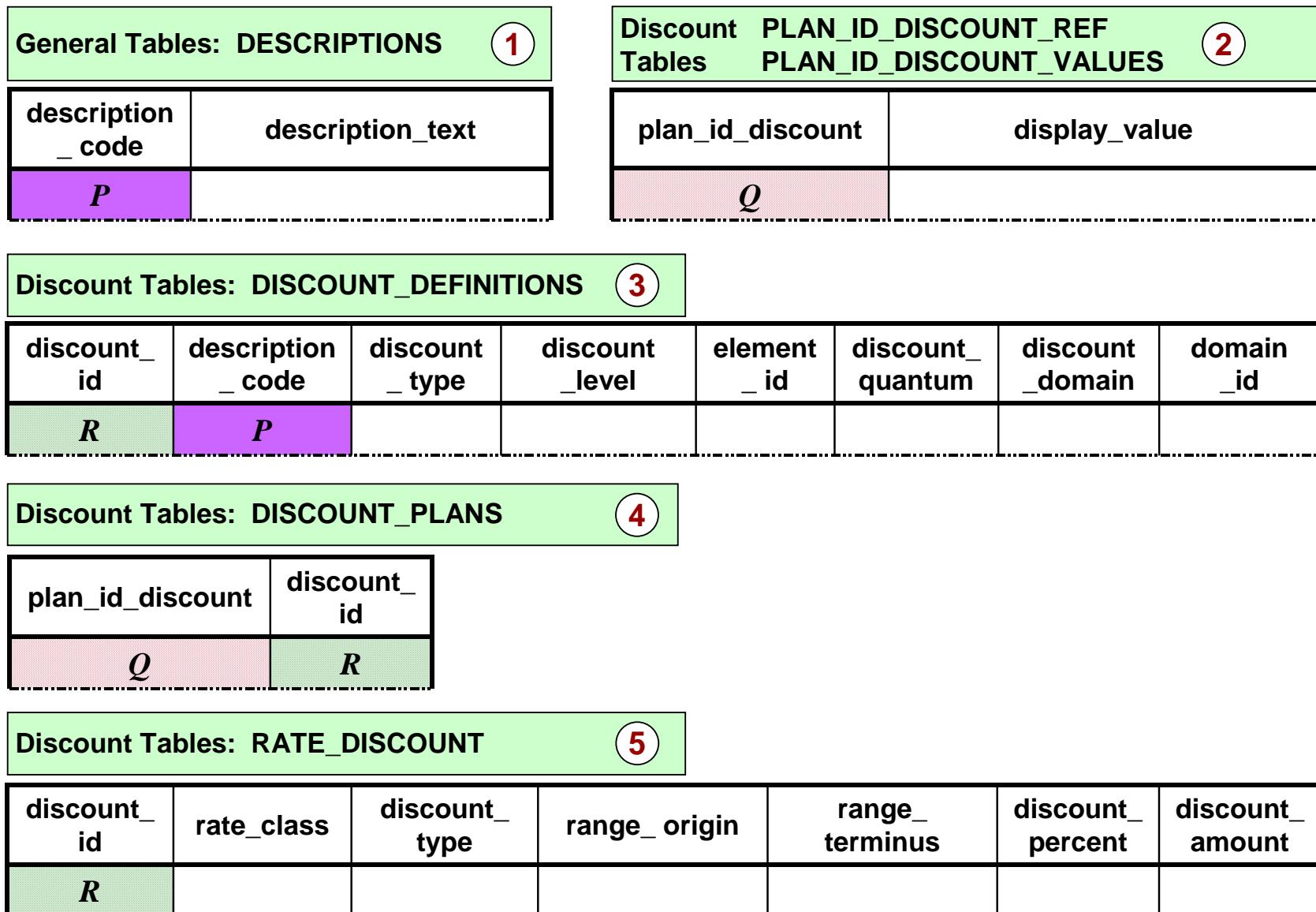


Table Flow to Define a Contract

General Tables: DESCRIPTIONS 1

description_code	description_text
S	

**Product Tables:
CONTRACT_TYPES** 2

element_id	description_code	contract_category	element_id	plan_id_discount
G	S			

plan_id_credit	activation_type_id_nrc	termination_type_id_nrc	duration_units	duration

Table Flow to Define a Package

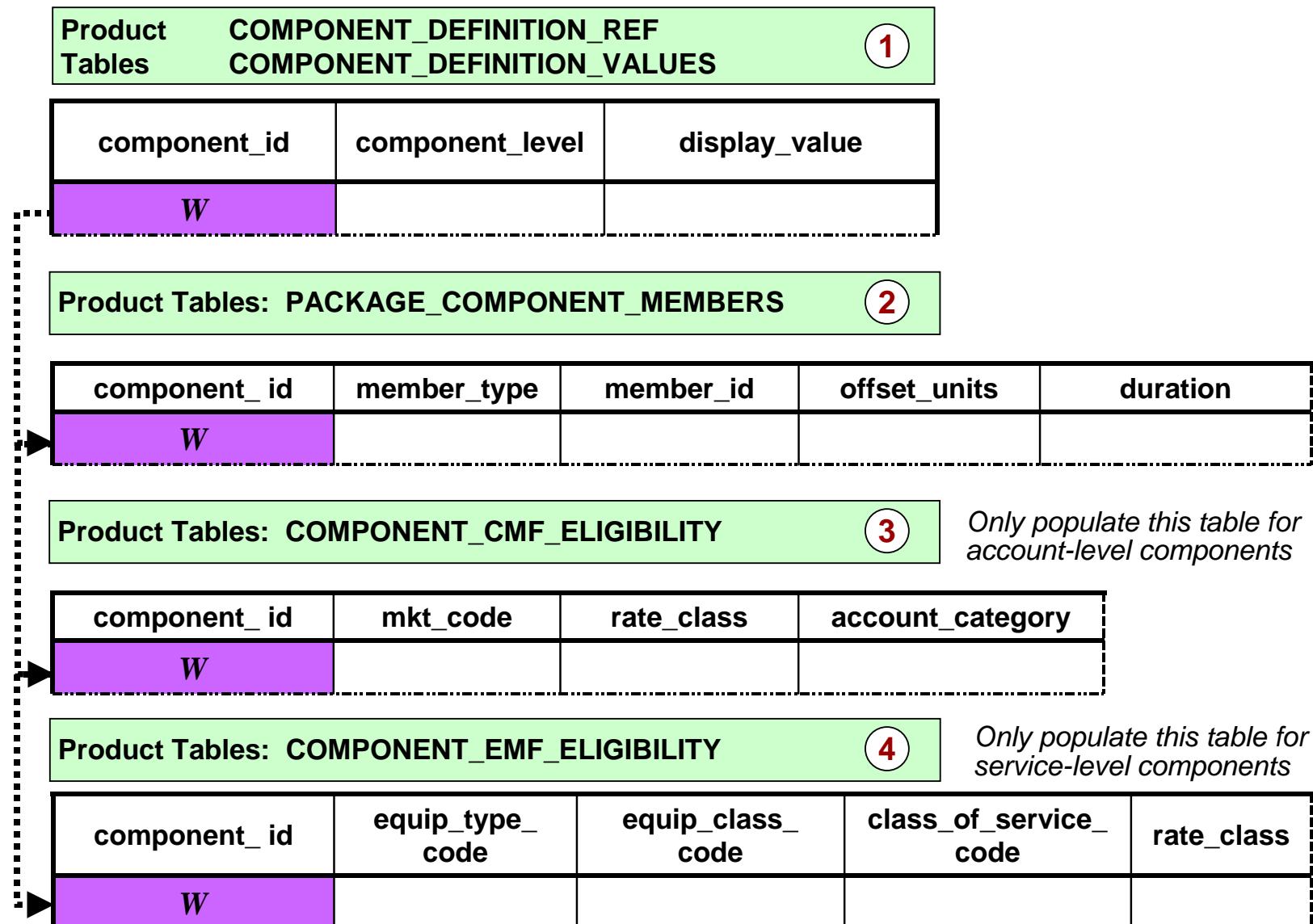
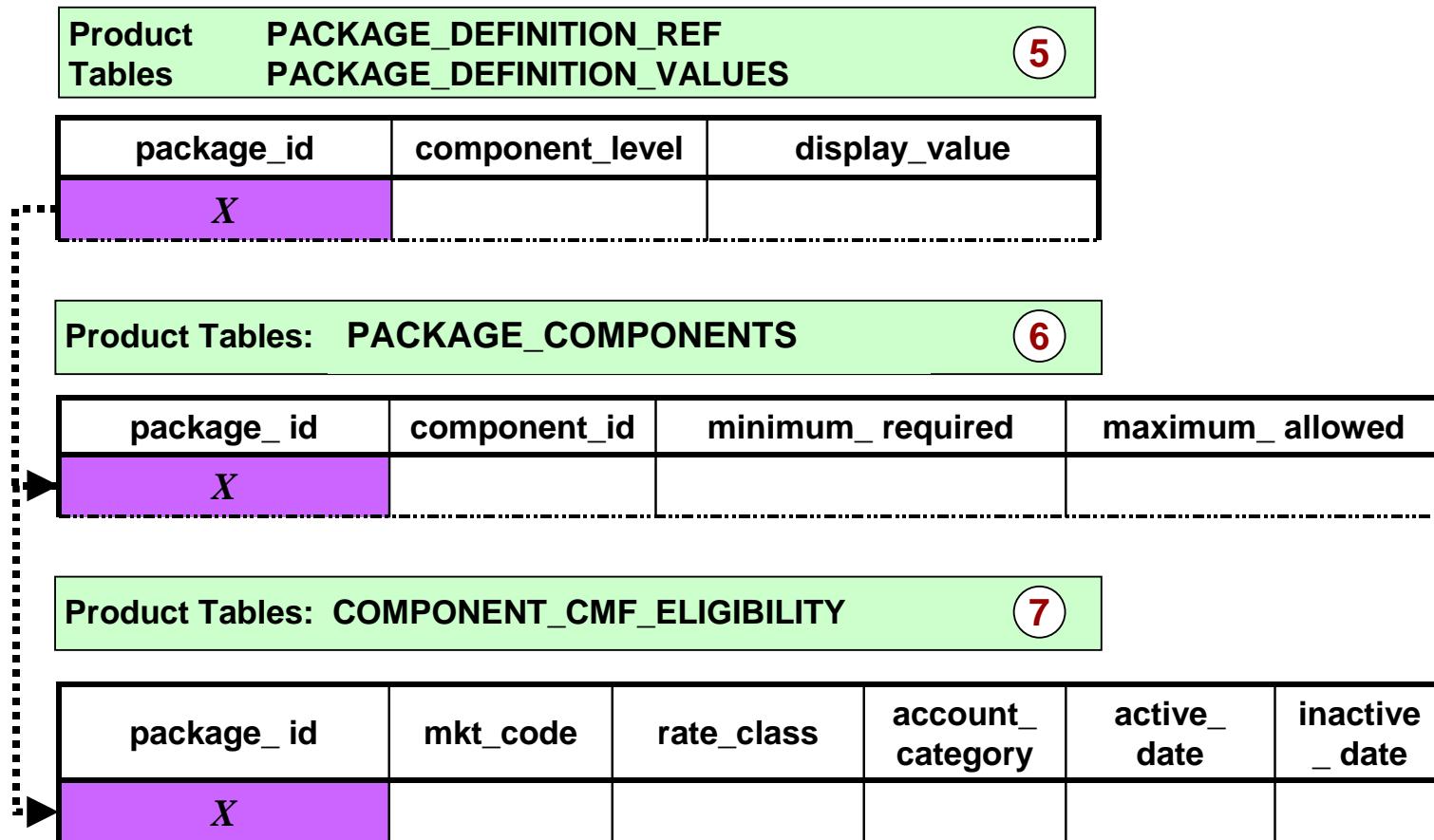
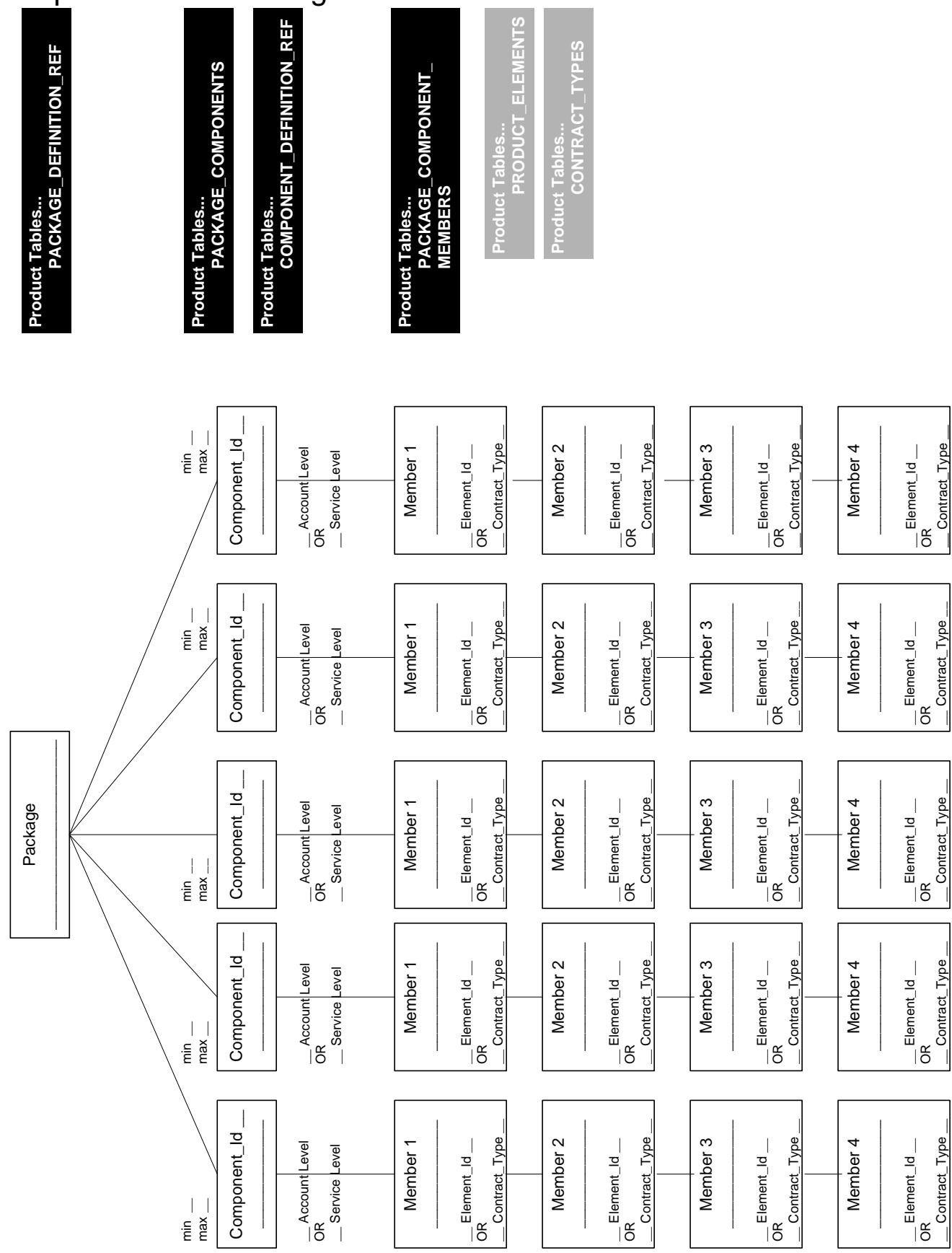


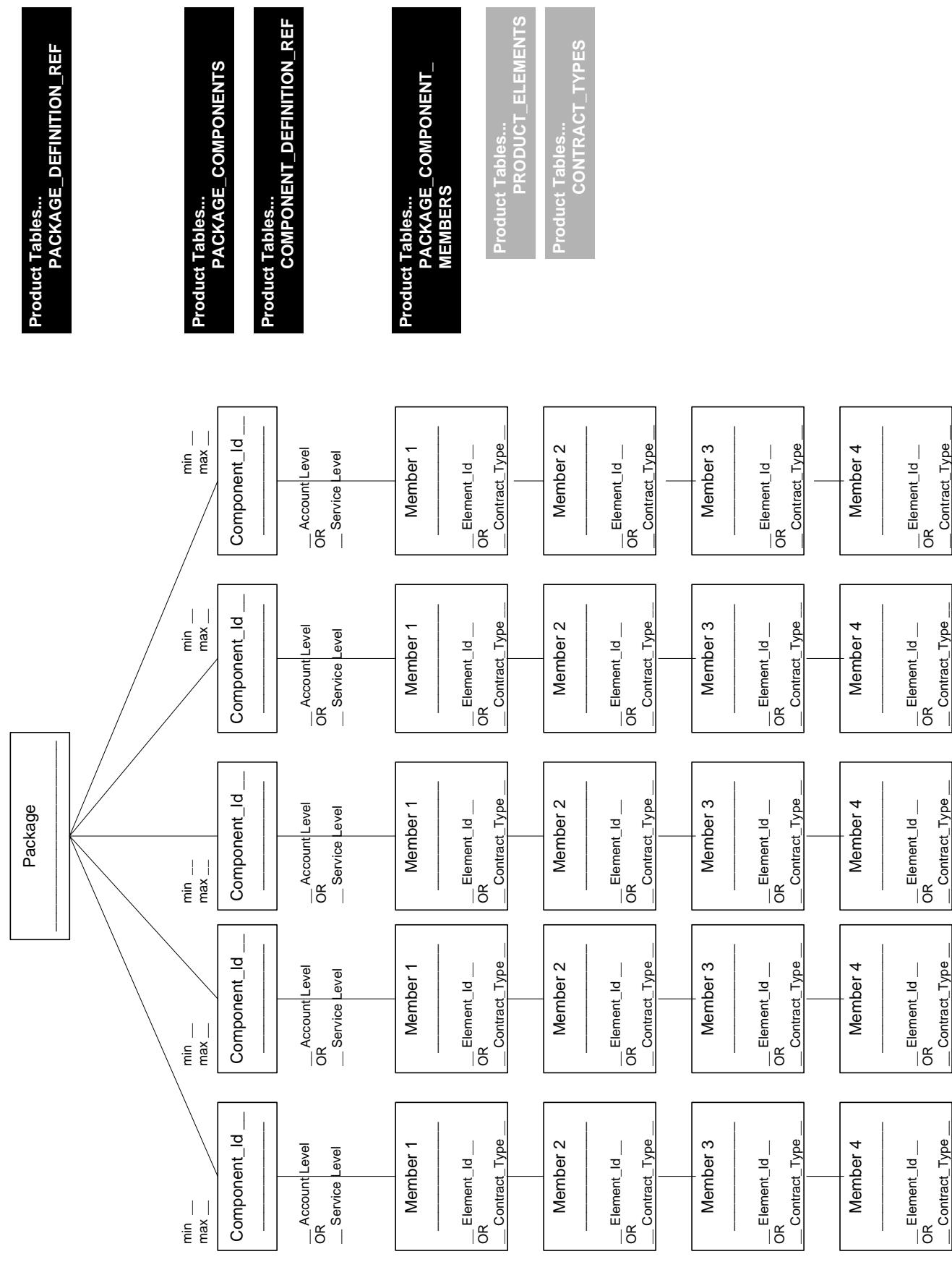
Table Flow to Define a Package (continued)



Steps to Plan a Package



Steps to Plan a Package (continued)



Worksheets for Kenan/BP Tables



Worksheet for Service Type Tables

EQUIP_TYPE_CODE_REF:

Field Name	Value	Value
equip_type_code		
is_default		
is_internal		
language_code		
short_display		
display_value		

EQUIP_CLASS_CODE_REF:

Field Name	Value	Value
equip_class_code		
is_default		
is_internal		
language_code		
short_display		
display_value		

CLASS_OF_SERVICE_CODE_REF:

Field Name	Value	Value
class_of_service_code		
is_default		
is_internal		
language_code		
short_display		
display_value		

Worksheet for Service Type Tables (continued)

EMF_CONFIG_ID_REF:

Field Name	Value	Value
emf_config_id		
is_default		
is_internal		
language_code		
short_display		
display_value		
default_external_id_type		

EMF_CONFIGURATION:

Field Name	Value	Value
emf_configuration_id		
emf_type		
equip_type_code		
equip_class_code		
class_of_service_code		
rate_class		
plan_id_credit		
plan_id_discount		
active_date		
inactive_date		
emf_book_id		
is_us_telephony		

Worksheet for RC Tables

DESCRIPTIONS:

Field Name	Value	Value
description_code		
description_text		

PRODUCT_ELEMENTS:

Field Name	Value	Value
element_id		
description_code		
product_line_id		
provider_id		
equip_type_code		
rate_equip_type_code		
equip_class_code		
rate_equip_class_code		
class_of_service_code		
rate_class_of_service_code		
type_group_usage		
type_group_nrc		
type_id_rc		
tax_class		
tax_location_rc		
active_date		
inactive_date		
foreign_product_code		
bill_in_arrears		
level_code		
contract_use_code		
activation_code		
termination_code		
auto_credit_code		
rate_component_id		
rate_rate_class		
alternate_frequencies_allowed		
split_booking		
rate_zone		
external_id_type		

Worksheet for RC Tables (continued)

RATE_RC:

Field Name	Value	Value
type_id_rc		
element_id		
component_id		
equip_type_code		
equip_class_code		
class_of_service_code		
rate_class		
bill_frequency		
lower_limit		
upper_limit		
rate		
distance_increment		
distance_rate		
foreign_code		
currency_code		
test_flag		
active_date		
inactive_date		

Worksheet for NRC Tables

DESCRIPTIONS:

Field Name	Value	Value
description_code		
description_text		

NRC_TRANS_DESCR:

Field Name	Value	Value
type_id_nrc		
trigger_status		
trigger_level		
total_installments		
provider_id		
element_id		
product_line_id		
trans_sign		
description_code		
tax_class		
tax_location_nrc		
is_viewable		
is_modifiable		
is_adjustable		
is_journable		
is_displayed_on_bill		
split_booking		
installment_type_id_nrc		
max_installments		
rate_component_id		
equip_type_code		
rate_equip_type		
equip_class_code		
rate_equip_class		
class_of_service_code		
rate_class_of_service		
open_item_id		

Worksheet for NRC Tables (continued)

NRC_TYPE_GROUPS table:

Field Name	Value	Value
type_group_nrc		
type_id_nrc		
description_code		

RATE_NRC table:

Field Name	Value	Value	Value	Value
rate_class				
type_id_nrc				
rate				
currency_code				
active_date				
inactive_date				

Worksheet for Usage Tables

DESCRIPTIONS:

Field Name	Value	Value
description_code		
description_text		

USAGE_TYPES:

Field Name	Value	Value
type_id_usage		
guide_to		
point_category		
origin_country_code_required		
tax_origin_code_required		
tax_target_code_required		
description_code		
tax_class		
tax_location_usage		
usage_class		
free_usage		
element_id		
product_line_id		
bill_aggr_level		
derive_jurisdiction		
units_indicator		
ratable_unit_class		
duration_flag		
derive_distance_units		
vh_minor_threshold		
distance_units_indicator		
guide_to_provider		
is_prerated		
rounding_method		
raw_units_type		
use_rate_class		
use_bill_class		
use_jurisdiction		
use_point_class_origin		
use_point_class_target		

Worksheet for Usage Tables (continued)

USAGE_TYPES (continued):

Field Name	Value	Value
use_provider_class		
use_rate_period		
use_element_id		
use_equip_type_code		
use_equip_class_code		
use_class_of_service_code		
use_distance_band_id		
use_component_id		

USAGE_TYPES_UNITS:

Field Name	Value	Value
type_id_usage		
jursidiction		
rate_class		
equip_type_code		
equip_class_code		
class_of_service_code		
billing_units_type		
no_bill		
priority		

USAGE_TYPE_GROUPS:

Field Name	Value	Value
type_group_usage		
type_id_usage		
description_code		

Worksheet for Usage Tables (continued)

RATE_USAGE:

Field Name	Value	Value
type_id_usage		
rate_class		
rate_period		
rate_units_type		
target_class		
origin_class		
provider_class		
class_of_service_code		
bill_class		
jurisdiction		
currency_code		
add_unit_rate		
element_id		
equip_type_code		
equip_class_code		
distance_band_id		
zone_class		
units_indicator		
incremental_bands		
fixed_charge		
active_date		
inactive_date		

USAGE_TYPES:

Field Name	Daytime	Evening	Evening
rate_period			
rate_class			
equip_type_code			
equip_class_code			
provider_class			
class_of_service_code			
bill_class			
type_id_usage			
point_origin_class			
point_target_class			

Worksheet for Usage Tables (continued)

USAGE_TYPES (continued):

Field Name	Daytime	Evening	Evening
jurisdiction			
element_id			
priority			
discount_factor			
start_time			
end_time			
year			
month			
day_of_month			
day_of_week			
active_date			
inactive_date			

Worksheet for Discount Tables

DESCRIPTIONS:

Field Name	Value	Value
description_code		
description_text		

DISCOUNT_DEFINITIONS:

Field Name	Value	Value
discount_id		
discount_level		
discount_domain		
discount_quantum		
discount_type		
element_id		
product_line_id		
format_code		
domain_id		
provider_id		
active_date		
inactive_date		
description_code		
save_detail		
rate_period		
jurisdiction		
is_gross		
corridor_plan_id		

RATE_DISCOUNT:

Field Name	Value	Value
discount_id		
rate_class		
range_origin		
range_terminus		
discount_percent		
discount_amount		
bill_frequency		
currency_code		
active_date		
inactive_date		

Worksheet for Discount Tables (continued)

PLAN_ID_DISCOUNT_REF:

Field Name	Value	Value
plan_id_discount		
corridor_plan_id		
is_default		
is_internal		
language_code		
short_display		
display_value		

DISCOUNT_PLANS:

Field Name	Value	Value
plan_id		
discount_id		
plan_order		
discount_definition_order		

Worksheet for Unit Credit Tables

DESCRIPTIONS:

Field Name	Value	Value
description_code		
description_text		

UNIT_CR_DEFINITIONS:

Field Name	Value	Value
unit_cr_id		
unit_cr_level		
unit_cr_distrib		
element_id		
provider_id		
product_line_id		
format_code		
date_active		
date_inactive		
date_created		
description_code		
ratable_unit_class		
unit_cr_domain		
unit_cr_quantum		
domain_id		

RATE_UNIT_CR:

Field Name	Value	Value
unit_cr_id		
rate_class		
units_free		
bill_frequency		
currency_code		
amount_free		
date_active		
date_inactive		

Worksheet for Unit Credit Tables (continued)

PLAN_ID_CREDIT_REF:

Field Name	Value	Value
plan_id_credit		
is_default		
is_internal		

UNIT_CREDIT_PLANS:

Field Name	Value	Value
plan_id_credit		
unit_cr_id		

Worksheet for Contract Tables

DESCRIPTIONS:

Field Name	Value	Value
description_code		
description_text		

CONTRACT_TYPES:

Field Name	Value	Value
contract_type		
contract_category		
element_id		
commitment_reference		
duration_units		
duration		
plan_id_discount		
plan_id_credit		
activation_type_id_nrc		
termination_type_id_nrc		
is_promotion		
description_code		
foreign_code		
start_by_units		
start_by		
active_date		
inactive_date		
fixed_start_date		
fixed_end_date		

Worksheet for Package Tables

PACKAGE_DEFINITION_REF

Field Name	Value	Value	Value
package_id			
active_date			
inactive_date			
is_default			
is_internal			
language_code			
short_display			
display_value			

COMPONENT_DEFINITION_REF

Field Name	Value	Value	Value	Value
component_id				
component_level				
active_date				
inactive_date				
is_default				
is_internal				
language_code				
short_display				
display_value				

PACKAGE_COMPONENTS

Field Name	Value	Value	Value	Value
package_id				
component_id				
minimum_required				
maximum_allowed				
active_date				
inactive_date				

Worksheet for Package Tables (continued)

PACKAGE_COMPONENT_MEMBERS

Field Name	Value	Value	Value	Value	Value
component_id					
member_type					
member_id					
member_required					
offset_units					
start_date_offset					
duration					
bill_frequency					
cycle_type					
active_date					
inactive_date					

PACKAGE_CMF_ELIGIBILITY

Field Name	Value	Value	Value
package_id			
market_code			
rate_class			
account_category			
active_date			
inactive_date			

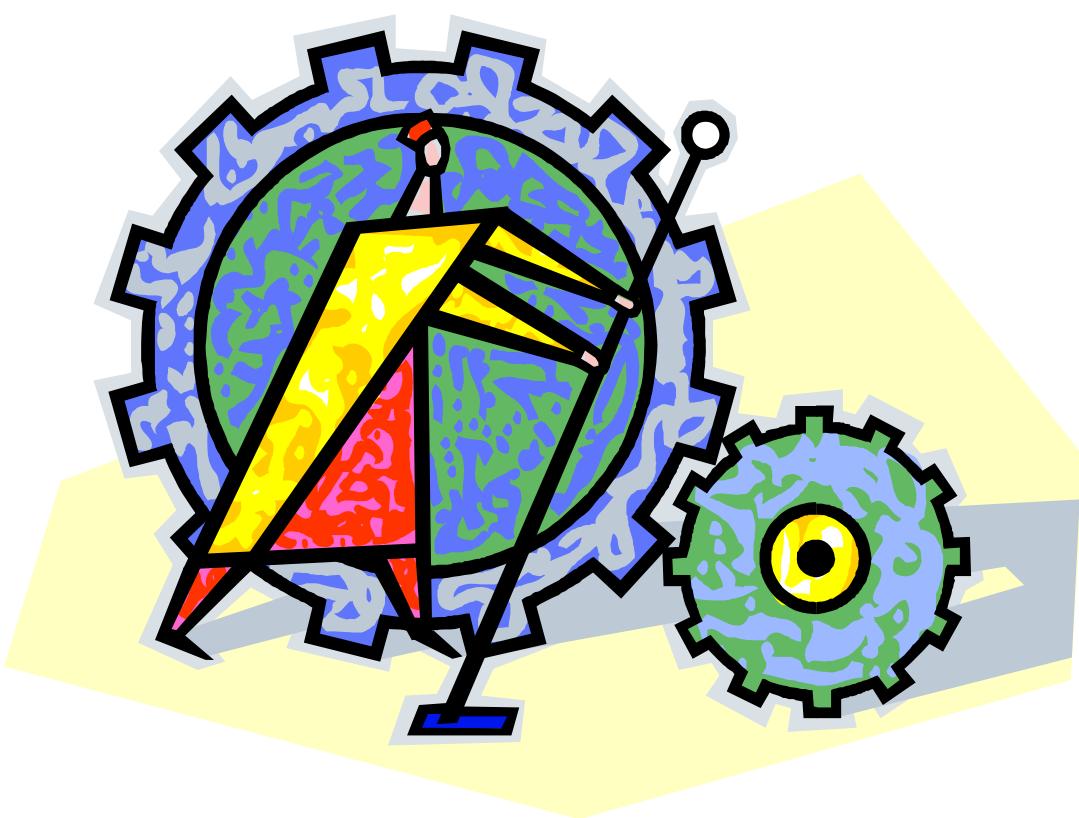
COMPONENT_EMF_ELIGIBILITY

Field Name	Value	Value	Value	Value	Value
component_id					
equip_type_code					
equip_class_code					
class_of_service_code					
rate_class					

COMPONENT_CMF_ELIGIBILITY

Field Name	Value	Value	Value	Value	Value
component_id					
market_code					
rate_class					
account_category					

Additional Activities

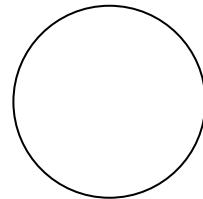
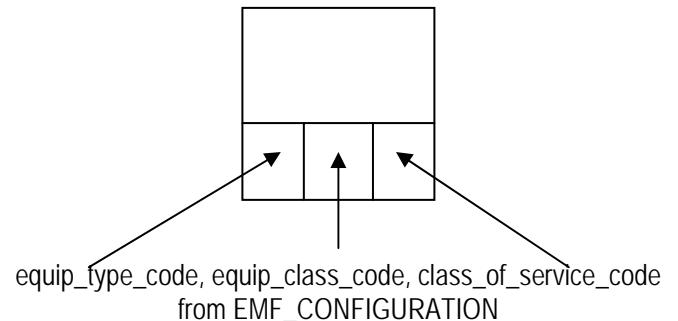
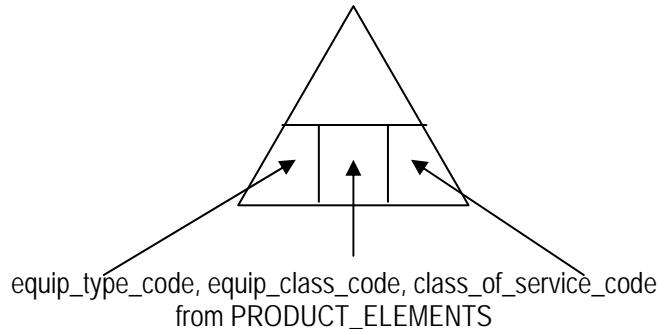


Activity 1. Practice Creating Diagrams for Eligibility

Directions:

Match the recurring charges to subscriptions wherever possible.

What purpose does this system of assigning values and matching them serve in the world of Kenan/BP?

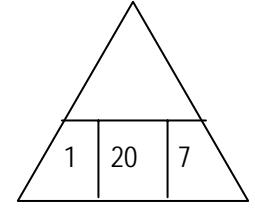
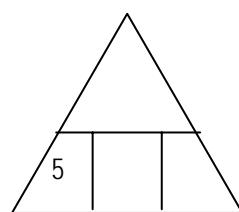
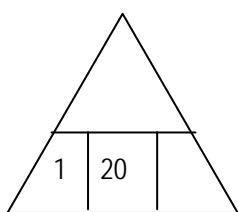
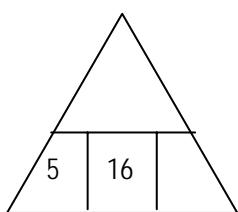
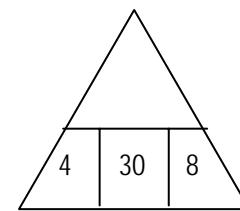
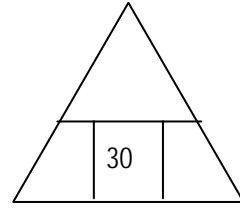
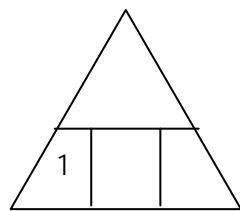


1	20	

1	30	

4	30	7

5		



Activity 2. Define Eligibility for Communicacio del Mundo

Your customer, Communicacion del Mundo, wants to restrict products so that the CSR can provision them only to networks containing specific network attributes. (Remember that these restrictions are called product *eligibility*.)

To define eligibility, you will enter the service attribute's id number into its respective field in the PRODUCT_ELEMENTS table.

Directions: You are configuring PRODUCT_ELEMENTS for Communicacion del Mundo. Someone else has already configured the tables related to service type, as shown on the following page.

Fill in the 2nd, 3rd and 4th columns of the table to meet their eligibility requirements:

- Product 2 can only be provisioned to leased lines.
- Product 16 can only be provisioned to regular telephone lines.
- Product 32 can only be provisioned to local end T1 leased lines.
- Product 50 can only be provisioned to main trunk leased lines.

PRODUCT_ELEMENTS

element_id	equip_type_code	equip_class_code	class_of_service_code	rate_equip_type	rate_equip_class	rate_class_of_service	rate_rate_class
2							
16							
32							
50							

Next, you will look at how Communicacion del Mundo wants to vary RC rates according to their criteria. Then you will fill out the remaining columns.

Activity 2. Define Eligibility for Communicacio del Mundo (continued)

EQUIP_TYPE_CODE_REF

equip_type_code	display_value
14	Telephone
15	Leased line

EQUIP_CLASS_CODE_REF

equip_class_code	display_value
20	T1
30	T3

CLASS_OF_SERVICE_CODE_REF

class_of_service_code	display_value
100	Local End
200	Main Trunk

EMF_CONFIG_ID_REF

emf_config_id	display_value
4	Local End T1 Line
5	Local End T3 Line
6	Main Trunk T1 Line
7	Main Trunk T3 Line
20	Telephone Line

EMF_CONFIGURATION

emf_config_id	equip_type_code	equip_class_code	class_of_service_code
4	15	20	100
5	15	30	100
6	15	20	200
7	15	30	200
20	14		

Activity 3. Set Up Rating Keys for Communicacio del Mundo

Your customer, Communicacio del Mundo, wants to vary the price of a recurring charge according to its service attributes. To do so, you will *turn on the rating key* by entering a ‘1’ in its rate field in the PRODUCT_ELEMENTS table. If you are going to have one flat rate, you will not turn on any rating keys.

- ‘1’ means: charge a different rate based on this attribute.
- ‘0’ means: do not charge a different rate based on this attribute.

If you turn on a rating key, you will most likely enter more than one row for this RC in the RATE_RC table: one row for each possible value of that rating key. In each row for that RC, you will enter the service attribute id.

Directions: Below is Communicacion del Mundo’s product rate configurations. Examine the table. Then, refer to the PRODUCT_ELEMENTS table and fill in the necessary rating keys using columns 5, 6, 7 and 8.

RATE_RC

element_id	rate_class	equip_type_code	equip_class_code	class_of_service_code	rate
2	0	0	20	0	50.00
2	0	0	30	0	75.00
16	0	0	0	0	10.00
32	1	0	0	0	25.00
32	2	0	0	0	35.00
32	3	0	0	0	20.00
50	0	0	20	0	40.00
50	0	0	30	0	50.00

PRODUCT_ELEMENTS

element_id	equip_type_code	equip_class_code	class_of_service_code	rate_equip_type	rate_equip_class	rate_class_of_service	rate_rate_class
2							
16							
32							
50							

Activity 4. Define Service Type Attributes for ABC

Complete this before configuring ABC Communications Telephony recurring charges.

How are service type attributes useful in restricting recurring charges?

When you create recurring charges, you may restrict them so that the CSR can provision them only to networks containing specific network attributes. These restrictions are called product *eligibility*. To define eligibility, you will enter the network attribute's id number into its respective field in the PRODUCT_ELEMENTS table.

Directions: Using text values, fill in the chart below to meet these eligibility requirements:

- Monthly Access can be provisioned to all telephone lines.
- Enhanced Call Waiting can only be provisioned to all telephone lines.
- Mobile Voice Mail can only be provisioned to mobile telephone lines.

PRODUCT_ELEMENTS

element_id	equip_type_code	equip_class_code	class_of_service_code	rate_equip_type	rate_equip_class	rate_class_of_service	rate_rate_class
Monthly access							
Enhanced Call Waiting							
Mobile Voice Mail							

How are service type attributes useful in varying recurring charge rates?

You can also vary the price of a recurring charge according to its service attributes. To do so, you will *turn on the rating key* by entering a '1' in its rate field in the PRODUCT_ELEMENTS table. If you are going to have one flat rate, you will not turn on any rating keys.

- '1' means: charge a different rate based on this attribute.
- '0' means: do not charge a different rate based on this attribute.

If you turn on a rating key, you will most likely enter more than one row for this RC in the RATE_RC table: one row for each possible value of that rating key. In each row for that RC, you will enter the service attribute id.

Activity 4. Define Service Type Attributes for ABC (continued)

Directions: Here are ABC Communications' rate configurations. Examine the table. Then, return to the table above and enter correct values for all rating keys.

RATE_RC

element_id	rate_class	equip_type_code	equip_class_code	class_of_service_code	rate
Monthly access	0	0	0	0	20.00
Enhanced Call Waiting	0	0	Landline	0	2.99
Enhanced Call Waiting	0	0	Mobile	0	4.99
Mobile Voice Mail	0	0	0	0	10.00

Imagine a different rating scenario:

Directions: Restrictions for the three recurring charges remain the same. Fill in the PRODUCT_ELEMENTS chart below to meet these hypothetical eligibility requirements:

- Monthly Access can only be provisioned to all telephone lines.
- Enhanced Call Waiting can only be provisioned to all telephone lines.
- Mobile Voice Mail can only be provisioned to mobile telephone lines.

In the RATE_RC chart (below PRODUCT_ELEMENTS), examine the new ABC Communication Inc.'s rate configurations. Then, return to the PRODUCT_ELEMENTS (below these directions) and fill in the necessary rating keys with 1 (charge a different rate based on this attribute) or 0 (do not charge a different rate based on this attribute).

PRODUCT_ELEMENTS

element_id	equip_type_code	equip_class_code	class_of_service_code	rate_equip_type	rate_equip_class	rate_class_of_service	rate_rate_class
Monthly access							
Enhanced Call Waiting							
Mobile Voice Mail							

Activity 4. Define Service Type Attributes for ABC (continued)

RATE_RC

Element_id	rate_class	equip_type_code	equip_class_code	class_of_service_code	rate
Monthly access	0	0	Landline	0	20.00
Monthly access	0	0	Mobile	0	25.00
Enhanced Call Waiting	Standard	0	0	Analog	2.99
Enhanced Call Waiting	Standard	0	0	Digital	4.99
Enhanced Call Waiting	Premium	0	0	Analog	3.99
Enhanced Call Waiting	Premium	0	0	Digital	5.99
Mobile Voice Mail	Standard	0	0	0	5.00
Mobile Voice Mail	Premium	0	0	0	10.00

Activity 5. More Practice with Attributes and Rating

1. Examine the attributes of each EMF configuration. What will these configurations allow a Product/Rate Specialist to achieve in the world of *Kenan/BP*?

EMF_CONFIGURATION

emf_config_id	equip_type_code	equip_class_code	class_of_service_code
Regular Connection	cable	regular	null
Satellite Connection	cable	satellite	null
Digital Connection	cable	digital	null

2. Examine the attributes of the recurring charge Monthly Cable Access defined below.

Questions: How is this recurring charge restricted?

How many rows will need to be entered for this recurring charge in RATE_RC?

PRODUCT_ELEMENTS

element_id	equip_type_code	rate_equip_type	equip_class_code	rate_equip_class	class_of_service_code	rate_class_of_service	rate_rate_class
8	cable	null	null	1	null	null	1

3. Fill in RATE_RC to meet the rate requirements for Monthly Cable Access:

- Regular: \$20 Standard Rate Class, \$25 Premium Rate Class
- Satellite: \$30 Standard Rate Class, \$30 Premium Rate Class
- Digital: \$35 Standard Rate Class, \$40 Premium Rate Class

RATE_RC

element_id	equip_type_code	equip_class_code	class_of_service_code	rate_class	rate

Activity 5. More Practice with Attributes and Rating (Answer Key)

Compare your solutions with these answers:

RATE_RC

element_id	equip_type_code	equip_class_code	class_of_service_code	rate_class	rate
8	null	regular	null	standard	20
8	null	regular	null	premium	25
8	null	satellite	null	standard	30
8	null	satellite	null	premium	30
8	null	digital	null	standard	35
8	null	digital	null	premium	40

Activity 6. Explore PRODUCT_ELEMENTS

Directions: Answer the questions to build you understanding of options for recurring charges. You may use *Kenan/BP* documentation and your Participant Guide.

1. Which field in PRODUCT_ELEMENTS *must* be unique? Why does *Kenan/BP* need this field's value to be unique?
2. When setting up products and promotions, in what other tables might you enter an RC's element_id?
3. Which fields allow you to restrict the types of networks to which an RC can be associated?
4. Which field identifies acceptable usage for a recurring charge?
5. Which fields allow you to differentiate rates for recurring charges?
6. How do you configure a recurring charge so that it will bill four months in advance?
7. How do you configure a recurring charge so that the customer will pay nothing if s/he cancels mid-cycle?
8. Consider the fields that link PRODUCT_ELEMENTS to other tables:
 - a. What field links PRODUCT_ELEMENTS to DESCRIPTIONS? What does this link accomplish?
 - b. What field links PRODUCT_ELEMENTS to PRODUCT_LINES? What does this link accomplish?
 - c. What field links PRODUCT_ELEMENTS to USAGE_TYPE_GROUPS? What does this link accomplish?

Activity 7. Explore RATE_RC

Directions: To better understand your configuration options for rating recurring charges, research and answer the following questions. You may use *Kenan/BP* documentation and your student guide.

1. Which field identifies the recurring charge being rated?

2. How many rows will you have in RATE_RC for any given recurring charge? Explain.
 - a. Which fields restrict the network attributes for which the rate applies?

 - b. Which fields restrict the customer types for which the rate applies?

 - c. Which field can be used to change an RC's rate if it is provisioned in a package versus a la carte?

 - d. What is the relationship of these fields to PRODUCT_ELEMENTS? (What are their corresponding fields in PRODUCT_ELEMENTS and how will *Kenan/BP* procedures use them?)

3. Which field defines the monetary type in which this recurring charge will be billed?

4. What field links RATE_RC and PRODUCT_ELEMENTS?

BONUS QUESTION

Which fields are needed for setting up RC rates that change with a subscription's distance? List them below and explain how they are used. Hint: see the *User Guide* for an explanation of “pop units”.

Activity 8. Explore NRC_TRANS_DESCR

Directions: To better understand your configuration options for non-recurring charges, research and answer the following questions. You may use *Kenan/BP* documentation and your student guide.

1. Which field in NRC_TRANS_DESCR *must* be unique? Why does *Kenan/BP* need this field's value to be unique?
2. Setting up products and promotions, in what other tables – and for what purpose – will you enter an NRC's unique ID?
3. Which fields allow you to differentiate rates for non-recurring charges?
4. Which rating keys in RATE_NRC *must* contain a value other than null?
5. What field links NRC_TRANS_DESCR to DESCRIPTIONS?

BONUS QUESTION

Which fields allow you to configure an NRC so that a customer can pay for it in installments?

Activity 9. Explore DISCOUNT_DEFINITIONS

Directions: To better understand your configuration options for discounts, research and answer the following questions. You may use *Kenan/BP* documentation and your student guide.

1. Which field is used by *Kenan/BP* to uniquely identify this discount? In what other tables, and for what purpose, will you insert this ID?
 2. Identify the fields that help restrict the charges for this discount. List them below and note how each one is restrictive.
 3. Can you restrict a discount to *a particular group* of recurring charges rather than *all* or *one* single recurring charge? Explain.
 4. Circle the field that links DISCOUNT_DEFINITIONS to DESCRIPTIONS.

*BONUS QUESTIONS

- A. Can you configure a discount so that once it is applied to a charge, no other discount definition will apply to that charge? Explain.
 - B. Which fields would you need in order to create a discount that gave 50% off Dial Tone if the customer ordered three Pay-Per-View movies?
 - C. What does the field “is_gross” achieve?

Activity 10. Explore RATE_DISCOUNTS

Directions: To better understand your configuration options for rating discounts, research and answer the following questions. You may use *Kenan/BP* documentation and your student guide.

1. What field restricts the discount to a particular type of customer?
 2. Think about the way you configure ranges for discounts.
 - a. For which type of discount must you use the fields range_origin and range_terminus?
 - b. Give an example of a discount that would require you to use these fields.
 - c. How many rows would you enter in RATE_DISCOUNTS for the discount example you gave in 2.b?
 3. Which field defines *how often* this discount will be calculated on bills?
 4. Which field links RATE_DISCOUNTS to DISCOUNT DEFINITIONS?

Activity 11. Explore CONTRACT_TYPES

Directions: To better understand your configuration options for contracts, research and answer the following questions. You may use *Kenan/BP* documentation and your student guide.

1. In which field do you define the *type* of contract you are configuring?
2. List each field that specifies the *Kenan/BP* entities contained in this contract.
3. What is a cycle-independent unit credit? How does it differ from a standard unit credit?

Which fields allow you to create a cycle-independent unit credit?

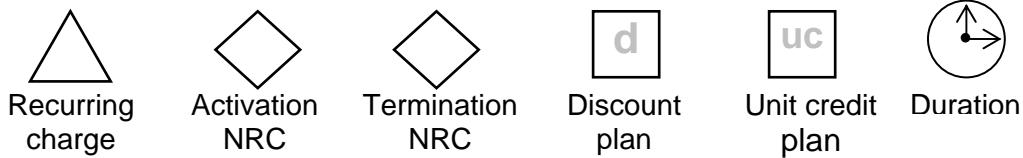
4. Identify the fields that control time periods for this contract:
 - a. Dates between which the contract will be available for a CSR to provision
 - b. Length of time for which a contract will be in effect after it is provisioned
 - c. Points at which the contract will start and end regardless of when it is provisioned
 - d. Point at which a contract will expire if a customer does not utilize the included service

BONUS QUESTION

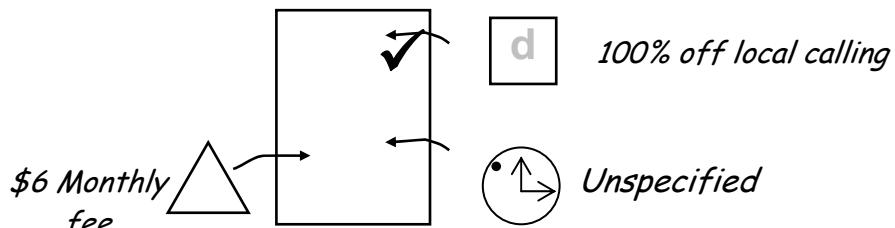
What is a commitment contract? Which fields are needed to create a commitment contract? How do these fields work?

Activity 12. Practice Modeling Contracts

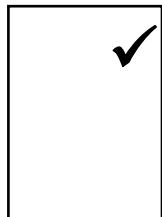
Part 1: Study each contract description. Then, draw the entities contained in the contract and label them. Use the entity symbols below. Contract 1 has been done for you.



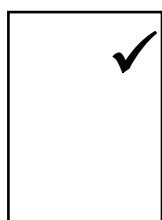
Contract 1: Pay a \$6 monthly fee, receive a 100% discount on all local calls. Promotion never expires.



Contract 2: Pay a \$25 installation fee and receive 3 free Pay-Per-View movies. This promotion expires after 6 months.



Contract 3: Pay \$19.95 per month and a \$50 activation fee, receive unlimited night and weekend calling. This promotion lasts a year. If you cancel before the end of the year, you will be charged \$175.



Activity 13. Model a Cable Package

Directions:

1. Discuss the layout of this package.
 - Identify the RCs, NRCs, and usage types.
 - Determine which rating keys you will use.
 - Determine the components that you will set up and which charges will be present in each.
 - Define everything using *Kenan/BP* symbols.
2. Model this package on the following page.

The “Super Sports Package”

Basic Cable	\$10 Residential \$12 Business
Sports Deluxe (10 sports channels)	\$15 Residential \$20 Business \$10 VIP
HBO & Cinemax	\$5
Installation Fee	Free!
Game Re-runs	5 free orders 1 st month; then \$3.99 each
Cable Box w/ Remote	Free for 1 st 6 months; then \$5.00 per month

Rules:

- Customer must have basic cable. Sports Deluxe is provisioned in addition to Basic Cable.
- Cable box is not required unless the customer would like to order game re-runs.
- This package is targeted to new customers who do not currently have basic cable as well as existing Customers.
- HBO & Cinemax are offered separately. They are both regularly priced at \$12.95 if purchased outside this package. In this package, they are priced as a unit, but they are not one product.
- The Installation Fee is normally \$20; in this package, it is free.

Activity 13. Model a Cable Package (continued)

Activity 14. Bring Order to a World of Chaos

Directions: For each task, label the tables in the order that they should be configured. You must label all tables. Be prepared to defend your answer when your teacher asks you to explain. When you have finished, compare your answers with another group's and discuss any differences in your answers.

1. To set up a call waiting recurring charge:

<input type="checkbox"/> RATE_RC	<input type="checkbox"/> DESCRIPTIONS
<input type="checkbox"/> PRODUCT_ELEMENTS	

2. To set up a telephone line installation NRC:

<input type="checkbox"/> RATE_NRC	<input type="checkbox"/> NRC_TRANS_DESCR
<input type="checkbox"/> DESCRIPTIONS	

3. To set up a call waiting discount and a contract containing that discount:

<input type="checkbox"/> CONTRACT_TYPES	<input type="checkbox"/> DISCOUNT_DEFINITIONS
<input type="checkbox"/> DESCRIPTIONS	<input type="checkbox"/> RATE_DISCOUNT
<input type="checkbox"/> DISCOUNT_PLANS	<input type="checkbox"/> PLAN_ID_DISCOUNT_REF

4. To compile a telephone line NRC, call waiting recurring charge, and discount plan into a component:

<input type="checkbox"/> COMPONENT_DEFINITION_REF	
<input type="checkbox"/> DESCRIPTIONS	
<input type="checkbox"/> COMPONENT_EMF_ELIGIBILITY	
<input type="checkbox"/> PACKAGE_COMPONENT_MEMBERS	
<input type="checkbox"/> COMPONENT_CMF_ELIGIBILITY	

5. To set up a package and a component inside it:

<input type="checkbox"/> COMPONENT_DEFINITION_REF	<input type="checkbox"/> PACKAGE_COMPONENTS
<input type="checkbox"/> COMPONENT_EMF_ELIGIBILITY	<input type="checkbox"/> DESCRIPTIONS
<input type="checkbox"/> PACKAGE_CMF_ELIGIBILITY	
<input type="checkbox"/> PACKAGE_COMPONENT_MEMBERS	
<input type="checkbox"/> PACKAGE_DEFINITION_REF	
<input type="checkbox"/> COMPONENT_CMF_ELIGIBILITY	

Activity 15. ESG Package Challenge

ESG Communications is promoting the offer in the ad shown here. Your task: build this package - from start to finish!

1. With a partner, determine and list the *Kenan/BP charge types and promotions* in the advertisement.

PRODUCTS

NRCs

DISCOUNTS

CONTRACTS

COMPONENTS

2. Decide which entities are dependent on others, which are optional, and which are mandatory.

3. Model the entire package.

4. Configure and test all RCs, NRCs, and Discounts.

5. Configure contracts and components and test the package.

6. How would you change your model of this package in order to:

- a. Limit Discounts to one per package so that customers who order more than one of any promotion receive the discount only once.

- b. Make Voice Mail dependent on ordering Talk Dial, so that customers *must* order one to receive the other.

Handout for Activity 15

To be used with the instructions on the preceding page.

The Hottest Deals Under the Sun!
All Phones Up to 50% Off!

\$9⁹⁹ buys you a whole lotta time.

Just sign up for our Select Annual Calling Plan, and for an additional \$9.99 per month, you'll get unlimited local airtime - every night and every weekend.



And

Audiovox 401
\$9⁹⁹
Save 50%

Plus these great options:

- **20% off leather cases and batteries**
- **2 months free access to TalkDial - our voice activated dialing service**
- **1 month free access to voice mail service**
- **120 minutes of our cellular long distance service to use within 60 days of activation**

For more information or to order by phone, call: 1-800-ESG-COMM

All offers valid with new activation on Select Annual Calling Plan by August 2, 1997. \$175 early termination fee of Select Annual Calling Plan applies. Offer available for telephony networks only. After two months of service, monthly access for TalkDial is \$2.99. After one month of service, monthly access for Voice Mail is \$3.99. Customer will automatically be charged for TalkDial and Voice Mail unless ESG Communications is notified to cancel them. Unlimited Night and Weekend feature not available on MobileReach USA or 7 States calling plans. Customer responsible for airtime, monthly access fee, toll, long distance, roaming charges and taxes when applicable. Service activation requires credit check and may require a security deposit. Night and Weekend airtime is 8pm-6:59am, M-F, all day Sat. and Sun. and select holidays.

Activity 16. Kenan/BP Crossword Puzzle

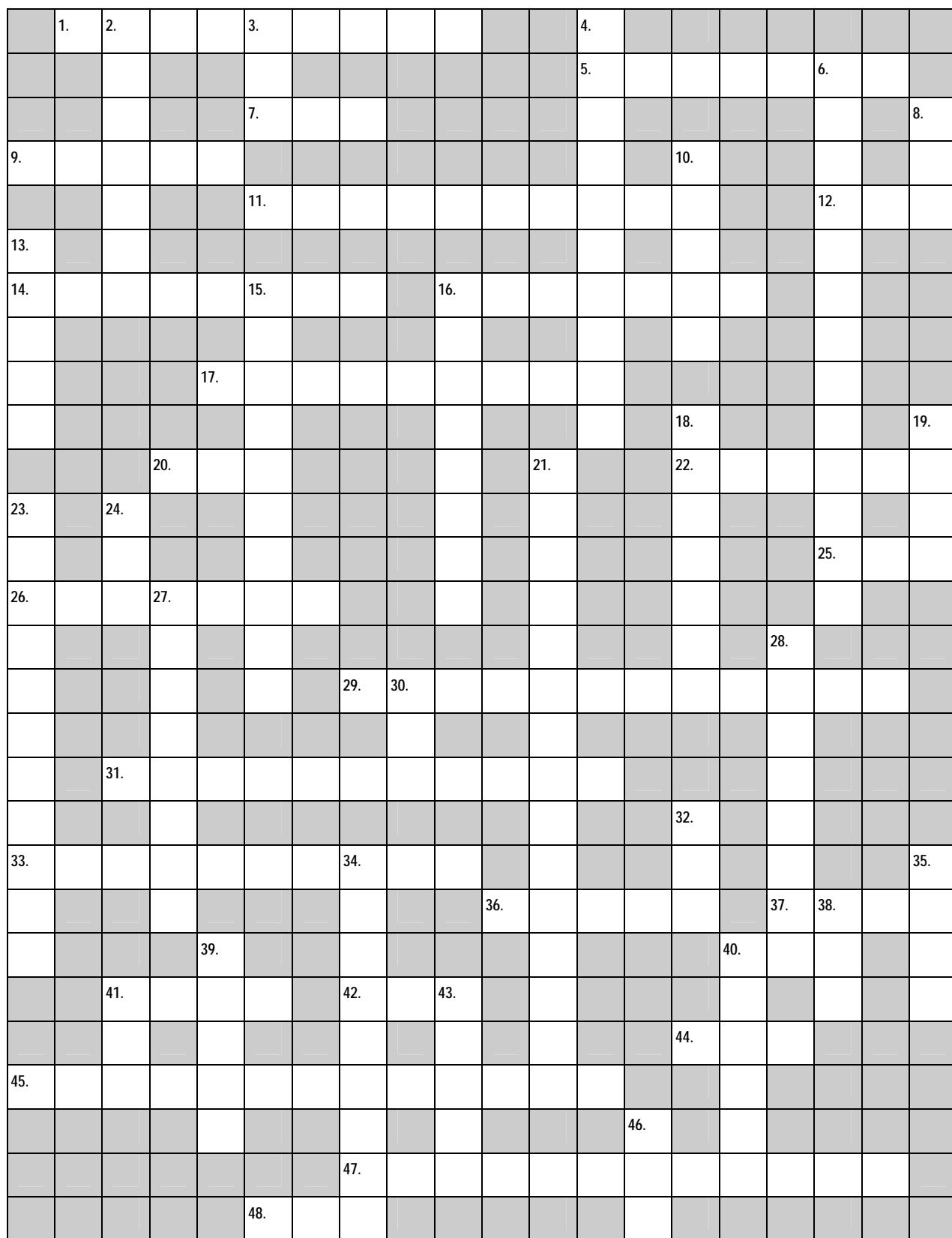
Down:

- 2 RCs billed after the fact are considered billed in _____.
- 3 This is the process abbreviation name for collections.
- 4 When BIP calculates charges, these help determine the billable amount. Examples are rate_equip_type, rate_component_id, and rate_class_of_service_code.
- 6 NRCs are configured here.
- 8 Processes external files for customers paying by check
- 10 Event-based charge
- 13 This database holds product and rate information.
- 15 Entity that allows free usage
- 16 Field that ties one account to another in a hierarchy
- 18 Another name for 21 Down
- 19 Routes usage to appropriate customer database
- 21 Cyclic charge, rated at BIP time
- 23 Used to track unbilled usage and prepayments
- 24 This process calculates discounts and taxes.
- 27 Database that stores information on accounts created and services provisioned
- 28 Use this entity if you want a time-based promotion.
- 30 Direct Debit payment method
- 32 Process that sends virtual invoice to output devices
- 34 This field determines whether an RC is applied to the account or subscription level.
- 35 Discounts can be incremental or _____.
- 38 Dynamic table that stores account information
- 39 Run this task to put past due accounts into collections.
- 40 When calculating the adjustment amount, enter a specific percentage, number of days, date or monetary _____.
- 41 This process and task bring credit card files into Kenan/BP.
- 43 The 'F' in EFT stands for this word.
- 46 Process that gathers financial data from Kenan/BP for analysis by a general ledger system

Across:

- 1 This field differentiates classes of subscriptions and accounts for rating purposes. Examples are business, residential, premium, and non-profit.
- 5 The billable entity
- 7 Correct errored lockbox files here.
- 9 Task that moves accounts in collections through events in their scenarios.
- 11 These consist of recurring charges and contracts.
- 12 A final charge, which is calculated at BIP time
- 14 Reduces the payable amount of charges
- 16 Provisioning tool that bundles recurring charges, NRCs, discounts, unit credits, and contracts together.
- 17 Links accounts to form parent-child relationships
- 20 One-time fee
- 22 Rates for recurring charges are defined here.
- 25 Process that guides and rates usage records
- 26 One of the determining factors as to which collections scenario an account is assigned to.
- 29 This table holds the display value for Discounts, NRCs and RCs.
- 31 This interface helps manage overdue accounts.
- 33 An account or subscription can have one or more of these identifiers.
- 36 An account under a parent account in a hierarchy is a _____ account.
- 37 Errored credit card transactions are viewed here.
- 40 You can access configurable tables through this Unix interface. (acronym) Used in Kenan/BP versions prior to 9.1.
- 41 Run this task to remove paid accounts from collections.
- 42 Dynamic table that holds subscription information
- 44 Process that transfers files between Kenan/BP and external systems
- 45 Schedule processes here.
- 47 This field defines a discount as bulk or incremental.
- 48 You can access configurable tables through this NT interface. (acronym) Available in Kenan/BP 9.1.

Activity 16. Kenan/BP Crossword Puzzle



Solution for the /BP Crossword Puzzle

Kenan BP - Fundamentals

Kenan BP - Fundamentals

Notes