



Line Item Explanation

Project Use Cases (Internal Document)

Document Status (Final)

Document Completion Date (06/27/2003)

Version 1.0

SPM ID #: 10238A0

CID #: 381354

06/26/03:

All references to Billing Section Help are on development hold.

This Line Item Explanation feature was removed at the client's request.

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Document Revision History

Date	Author	Version	Document Changes and Reasons
4/27/2003	Lance Smith	.2	Initial Draft
5/23/2003	Lance Smith	.5	Redo document based on new LIE-BillView usability
5/26/2003	Lance Smith	.6	Add Actor Roles, General Explanations, Billing Section Help
5/27/2003	Lance Smith	.7	Usable narrative format - based on VZ.Com RAD standards Determine narrative format that is usable for project
5/30/2003	Lance Smith	.75	Add initial customer and precondition Use Cases
6/20/2003	Lance Smith	.8	Add all business requirements into use cases Add Content Writer Use Cases
6/27/2003	Lance Smith	1.0	Add 3 Use Case Relationship Visio Diagrams

Use Case Notation

Notation	Meaning within the Use Case
<u>underlined, lower-case</u>	Numbered Use Case Names - #2 adding an explanation
Bold Italic	Words selected for special emphasis or new terminology
Bold Font	Numbered action performed by an external user (Actor).
Normal Font	Numbered system response to a user's selection.
Optionally [step]	An optional action that an actor can perform in a use case begins with the word optionally and is enclosed in square brackets ([]).
{Step 1, Step 2, Step 3}	Actions that an external actor may perform in any desired sequence are enclosed in braces or curly brackets ({ }).
[Item 1 Item 2 ...]	Select one of the items in the list and perform the user action.

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1 Overview

This document describes the essential use cases for three, overlapping Verizon software systems: Line Item Explanation (LIE), BillView, and Content Management System (CMS), that must work synergistically to provide billing explanations to Verizon customers.

1.1 What is an Essential Use Case?

A single, discrete, complete, meaningful, and well-defined *task* accomplished by an external *actor* with an *observable* result. The actor has a specific *user role* in relationship to the LIE-CMS system. The use case comprises the *actor intentions* and *software functionality* necessary to describe the task using technology and implementation-independent terms.

1.2 What are the Line Item Explanation Actor Roles?

- **Customer** – A Verizon Consumer or General Business customer who has logged-on to Verizon.com as an authorized user, displays a billing statement associated with their account number, and wants additional explanation about the Verizon bill.
- **Content Writer** – An abstract LIE user role that is expressed as an **Author**, **Editor**, or **Moderator**. See *Figure 31 – Content Administration Software Overview* on page 57 to see how these roles interact in the LIE-CMS production environment.
- **Author** – A Verizon staff member who employs the LIE Admin Tool and CMS to select billing entities and develop related explanations for **Customers**. The **Author** also creates question and answers that become portions of the General and Billing Section explanations.
- **Editor** – A Verizon staff member who uses CMS to change explanations, questions, and related answers for adherence to Verizon *content*, *grammar*, and *suitability* standards.
- **Moderator** – A Verizon staff member who uses CMS to approve explanations, questions, and related answers for publication to the LIE production database.
- **LIE Administrator** - A Verizon staff member who uses CMS administration functions to assign the user IDs, passwords, and roles (**Author**, **Editor**, or **Moderator**). The LIE Administrator can run reports to determine which bill explanations are used by Verizon **Customers**. The Use Cases for this actor are *outside the scope* of this LIE-CMS document.

1.3 How Customers Experience Line Item Explanations

When customers choose to display their bill at *Verizon.com*, the bill is initially populated with icons to denote what billing entities can be explained to the customer.

1.3.1 Icons denote Explanation Types

When a customer displays their bill with the line item explanation functionality, BillView inserts colored icons (*Table 1*) into the HTML page.

For examples of how a customer bill appears to a Verizon customer (page 10) and LIE content writer (page 42), see Figure 1 and Figure 23.

Table 1 – Line Item Explanation Icons

Colored Icon	Customer Meaning	LIE-CMS Internal State
	Not applicable	Blue - Bill Explanation icon in Administration Mode Identifies pattern text that can possibly have an explanation Pattern has not been addressed by content writers
	Unexplained	Grey - No explanation associated to this line item
	Explained	Green - Explanation written, saved, edited, and approved in CMS. CMS has published the explanation identifier for production.
	Explained, but not approved	Orange - Explanation written and saved in the CMS database The explanation is not approved and published to production.
	Ignored	Red - Billing Entity has no valid explanation. The explanation identifier (GUID) is set to 0.

1.3.2 Customer Bill Appearance

When a customer’s bill is displayed in BillView, Figure 1 shows how a customer sees the “colored” icons distributed beside portions of the bill. To see explanations, the user (1) clicks the question mark icons for further explanations of items on your bill, (2) click on one of the links in the ³General Explanations box in the left column to see answers to general billing questions, and a list of more questions, or (3) click on one of the links at the top of each section of your bill to get explanations of that section of your bill.

Figure 1 – Consumer Bill with Explanation Links (Admin Mode)

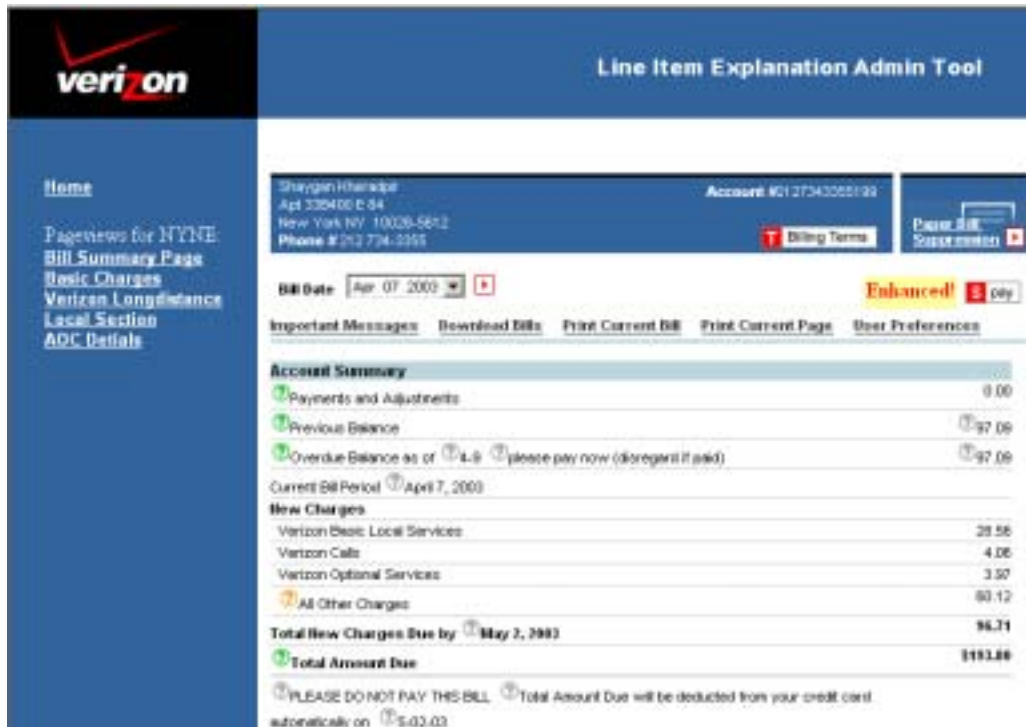


Figure 2 – Consumer Bill as the Customer Sees It

verizon Products & Services Customer Support About Verizon My Account

Sign out Directory My order Contact us

Bill Summary

Shaygan Kherador
Apt 35A60 East End Av
New York NY 10028-7908
Phone # 212 734-3355 Account #2127343355199

Sign up to manage your bill paper-free with Online Billing

Enhanced! pay

Bill Date Jun 07 2003

Important Messages Download Bills Print Current Bill Print Current Page User Preferences

Account Summary

Previous Balance	81.76
Payment Received 6-3 -- Thank You	81.76cr
Current Bill Period June 7, 2003	
Balance as of 6-11	0.00
New Charges	
Verizon Basic Local Services	14.85
Verizon Optional Services	76.36
All Other Charges	23.93
Total New Charges Due by July 2, 2003	115.14
Total Amount Due	\$115.14

PLEASE DO NOT PAY THIS BILL. Total Amount Due will be deducted from your credit card automatically on 7-02-03

New Charges

This list represents all the charges for this month's bill. Click on a service name to see a complete breakdown of charges.

Verizon	91.21
Verizon	91.21
Verizon Long Distance	\$6.02 cr
Verizon Online	29.95
Total New Charges Due by July 2, 2003	
Total	\$115.14

Order or Bill Information Toll Free in NY State 1 212 890-1550
Payment Information Toll Free in NY State 1 212 890-2100
TTY-TDD
Customer News
Your Verizons Package(s)
Verizons Freedom * \$59.95

1 General Information Links

2 More Info Help Links

3 Line Item Explanation Indicators

4 Tool Box – Toggle General Information and More Info Links On/Off

Bill Legend

- (1) General Information Links
- (2) More Info Help Links
- (3) Line Item Explanation Indicators
- (4) Tool Box – Toggle General Information and More Info Links On/Off

1.3.3 Hiding Line Item Explanations

When the customer clicks the “*Hide Explanations*” link at the top of the bill, the General Information links are removed from the bill’s left column. Clicking the “*Show Explanations*” link restores the General Information links.

The functionality that is toggled includes the appearance of explanations icons, the section links, and the General Explanations box in the left column. This preference is Internet *session based*, so for this release the explanations display again when the user logs in to Verizon.com.

1.4 List of LIE-CMS Project Use Cases

1.4.1 Customer Bill Use Cases

The Verizon customer displays explanations for their online Bill or *chooses not to see* explanation icons posted on the bill.

- Customer searches for bill explanation (*Customer Precondition*)
- Customer displays line item explanations from bill
- Customer displays General Information (alternatively named *Universal*, or “*My Questions*”) help to explain generic billing questions
- Display Billing Section help to explain a portion of the customer bill
- Display explanations or question and answers related to the currently displayed explanation
- Toggle the Line Item Explanation icon display between **On** and **Off**

1.4.2 Content Writer - Explanation Use Cases

The Content Writer displays a billing entity (line item) and then creates, edits, approves, or rejects explanations associated with this billing entity.

- Assigning a billing entity to an explanation (*Content Writer Precondition*)
- Add new explanation
- Edit explanation
- Link to Product Explanation
- Ignore explanation
- Duplicate an explanation
- Preview explanation as it is displayed on a customer’s Verizon bill
- Preview connected explanations
- Copy an existing explanation to create a new explanation
- Delete a single explanation
- Move explanation (and all associated explanations) to a new scope level.

- Promote explanation status to Waiting for Editor Approval, Editor Declined, Waiting for Moderator Approval, or Moderator Declined.
- Publish explanation to LIE Production Database.
- Display list of explanations (Production Manager)
- Approve or Decline multiple explanations (Approval Assistant)
- Add (content author) comments to an explanation

1.4.3 Content Writer – Question/Answer Set Use Cases

The Content Writer adds, edits, approves, or rejects questions and answer sets associated with Universal (General) and Billing Section Help. A subset of questions and answers form a General/Section explanation that mimics a group of Frequently-Asked Questions (FAQ). (See *Multiple Explanations for a Single Bill Line* on page 22 and *Billing Section Explanations* on page 26.)

- Add a new question and answer set
- Edit a question and answer set
- Preview question and answer set as displayed in general or billing section help
- Delete question and answer set
- Promote question and answer set status to Waiting for Editor Approval, Editor Declined, Waiting for Moderator Approval, or Moderator Declined.
- Publish the question and answer set to the CMS Repository
- Display list of questions (Production Manager)
- Approve or Decline multiple questions (Approval Assistant)
- Add comments to a question and answer set
- Import a single bill for new line items

1.4.4 Content Writer – Reporting Use Cases

The Content Writer runs an interactive report and filters it according to specific bill criteria to determine which unexplained items need addressing with more explanations.

- Display distribution of unexplained billing entities by CMS state
- Display an explanation (question/answer set's) revision history
- Display an explanation (question/answer set's) revisions by date
- Display unexplained billing entities and use criteria filters
 - By market
 - By number of occurrences

Note: *Other reports will be developed as content workflows dictates the need.*

1.5 Definitions and Terminology

Term	Definition
Account	Customer account number. The Account Number, Billing Date, and FSC define the specific bill that the BillView application displays.
Actor	An actor is a person or system that interacts with the LIE-CMS system. For essential use cases, the actor produces an observable result from the use case.
Admin View	The screen display showing an explained billing entity, where the icons link to an edit session in CMS. Additionally, the display of unexplained billing entities where the icons link to a create session in CMS.
Approving	A LIE state whereby the Moderator (a) disapproves or (b) approves billing entities/explanation. Disapproved content returns to the Author and approved content status is published to the LIE production database.
Author	An actor in the Content Management System that writes and revises explanations to associate with selected billing entities. The Author promotes an explanation and all associated billing entities to the WEA (Waiting on Editor Approval) state or just saves the revised content in the CMS repository.
Authoring	A LIE state whereby the Author (a) saves an explanation to the CMS repository or (b) promotes an explanation for editing and approval. The state Waiting for Editor Approval reflects this content promotion.
Billing Entity	A portion of billing text from a verizon bill. The billing entity consists of (1) context_id , (2) line_item_id , (3) content_id (32-bit hash), and (4) the actual Text shown on the bill. (See Table 2 on page 18.)
Billing Entity Explanation	Descriptive text used to explain one or more billing entities. The scope of the explanation defines the geographical and organizational billing entities permitted to use this explanation. See definition of <i>explanation</i> .
Billing Section Help Identifier	“Things You Don’t See” section identifiers that include: Universal (global explanations that show in the left navigation bar) AccountSummary , ChargesSummary (major subtotals) Payments , BasicCharges , OptionalCharges , LocalCalls (local toll details), AllOtherChargesSummary (carrier charges-ATT, MCI, Verizon LD) Plans (specific plans, including ATT, MCI, Verizon LD) Regulatory (miscellaneous messages details)
Billing Section Help	Information that includes Frequently-asked Questions, concepts, or other explanations that are not directly tied to a visible billing entity. See definition of <i>Things You Don’t See</i> .
Billing System	A numeric code that identifies the Verizon legacy market to which the customer’s bill belongs. This numeric code can be (0) MDVW, (1) FSC, (2) NPD, (3) NY, (4) EXPRESS, (5) NE, or (8) GTE.
BillView View	Display of billing entity explanations as the consumer would see them. The BillView display has icons only for explained portions of the bill.
CMS	Content Management System – Storage repository for BillView explanations and associated billing entities. The repository also includes Billing Section Help and product descriptions linked to explanations.

Term	Definition
CMS Content Approval	Line Item Explanation process where a CMS Moderator displays billing entities and the associated explanations for approval. Once approved, the explanation GUID is published to the LIE Production Database.
CMS Content Maintenance	Line Item Explanation process where a CMS Actor (Author, Editor, or Moderator) displays billing entities identified by the LIE Administration software and attaches existing or new explanation text to the identified entities. The explanations and associated billing entities are stored in the CMS repository, with an identifier published back to the LIE production database.
Content Identification	Process where the LIE Administrator displays bills from the LIE Admin Database and identifies billing entities to hand an HTTP session to the Content Management System.
Content Writer	One of the LIE-CMS actors that assumes the role of Author, Editor, or Moderator .
Context	The XML path that defines a logical grouping of lines within a bill. This path is analogous to the file directory path that locates a directory (folder) containing multiple files. (See <i>Table 2 on page 18.</i>)
ED	Editor Decline – A CMS state where the Editor returns content to the Author . A notification is sent to the LIE production database changing status to Authoring.
Editing	A LIE state whereby the Editor (a) promotes (WMA) or (b) declines (ED) billing entities/explanation.
Editor	An actor in the Content Management System that revises and approves explanations to associate with selected billing entities. The editor promotes an explanation and all associated billing entities to the WMA (Waiting on Moderator Approval) state.
Entity	Anything for which an explanation may be provides: bill section, header, footer, subsection, grid heading, message, phrase, charge, credit, or other text.
Explanation	A LIE entity that describes a specific billing entity within one or more selected contexts. The explanation includes an identifier (GUID), text (description), display format, status (CMS internal), and a scope. The scope describes the geographical and organizational billing entities that are permitted to use this explanation.
Explained	A billing entity attribute that designates an explanation was authored, edited, and approved for this bill element.
FAQ	Frequently-asked Questions – The CMS system stores individual sets of questions and related answers. At runtime, CMS obtains all questions/answers associated with the General/Section of the bill where that the user clicked. Based on the jurisdiction and the question's priority, a list of questions and answers that fit in the assigned display area are generated. See the basic concepts of <i>Multiple Explanations within Popup</i> and <i>Billing Section Explanations</i> .
FSC	A number that identifies the legacy market to which the customer's bill belongs. This numeric code also indicates the "jurisdiction" of the bill, which can be MDVW, FSC (Bell Atlantic), NPD, NY, EXPRESS, NE, or GTE (Verizon West).

Term	Definition
General Help	A set of links that display in a box with the title General Explanations and is found in the left column of billing pages. Four to eight general explanation links display in the General Explanations box, plus one additional “ More... ” link. These explanations describe the Line item Explanations and some of the most common billing questions. See <i>Example</i> page 24 for examples.
GUID	Global Unique Identifier - a 64-character string that Microsoft programming generates to create a unique identity for an entity. GUIDs are widely used in Microsoft products to identify interfaces, records, and other DB objects.
Identified	LIE state whereby an Actor clicks a billing entity in the BillView display and optionally displays any associated explanation.
Ignore	A Pattern attribute that signals the BillView system not to display an icon next to this billing entity. Used to define text that cannot be explained.
Jurisdiction	A number that also indicates the original back-end Verizon billing system that contains the consumer’s statement, which can be (0) MDVW, (1) FSC, (2) NPD, (3) NY, (4) EXPRESS, (5) NE, or (8) GTE.
LIE	Line Item Explanation – A BillView enhancement that determines significant billing entities on a bill and associates explanatory text from the CMS Server. This explanation displays as a pop-up window or alternative display type.
LIE Production DB	The Line Item Explanation database used by BillView to (1) decide what portions of a consumer’s bill can be explained, (2) pass identifiers to the CMS repository, and (3) display the resulting explanations (Billing Entities and Billing Section Help) in appropriate pop-up windows.
LIE Research Pattern Identification DB	The Line Item Explanation database that takes a chosen number (500-1000) of Verizon bills (specific jurisdiction), stores the statements, parses the statements into patterns, generates statistics about the patterns, and serves as the repository for the LIE Admin tool.
Line Item	A specific text pattern within a logical grouping of lines for a Verizon bill. Context is analogous to the file directory path that locates a folder within a PC file directory. Line item locates a specific file name and line inside the file or bill. (See <i>Table 2 on page 18.</i>)
Pattern	The portion of the billing entity from a verizon bill that identifies it. The pattern consists of (1) context_id , (2) line_item_id , and (3) the content_id (32-bit hash). (See <i>Table 2 on page 18.</i>)
Publishing	A LIE state whereby the Moderator approves billing entities/explanation and it is published to the LIE production database.
Save	A CMS state that applies to an explanation that is saved in the CMS repository by the Author . The LIE production database is notified and the Author still can perform additional modifications.
Scope	The scope of an explanation describes the geographical and organizational billing entities that are permitted to use this explanation. See (<i>Figure 4 on page 19.</i>)
Selecting	A LIE state whereby the Author chooses a billing entity and the LIE admin tool hands an HTTP session to the CMS application.

Term	Definition
Text	The portion of the billing entity that contains the actual text that displays on a consumer's Verizon bill. (See <i>Table 2 on page 18.</i>)
Things You Do See	Things You Do See – Refers to explanations directly tied to billing entities and denoted by an icon.
TYDS	Things You Don't See – A reference to Billing Section Help, information that includes Frequently-asked Questions, concepts, or other explanations that are not directly tied to a visible billing entity. See <i>Billing Section Explanations</i> on page 26.
Unexplained	A Pattern attribute that describes a billing entity that is neither Ignored or associated with an explanation. See <i>Ignored</i> .
Use Case	A single, discrete, complete, meaningful, and well-defined task accomplished by an external user with an observable result.
WEA	Waiting for Editor Approval - A CMS state that applies to an explanation saved in the CMS repository by the Author and waiting for the Editor to approve this information. Notification is sent to the LIE production database.
WMA	Waiting for Moderator Approval - A CMS state that applies to explanation saved in the CMS repository by the Editor and waiting for the Moderator to approve/publish to the LIE Production database or decline the explanation. Either action causes a status notification to the LIE production database.

2 Basic Concepts

Along with the terminology described in the previous section, the Line Item Explanation and CMS systems have a number of concepts that a **Content Writer** must understand to effectively integrate explanation content for the Verizon customer.

2.1 XML – Context, Line Item, Content, and Patterns

The LIE project is based on the ability to “identify” specific textual patterns in the Verizon XML bill. This pattern identification can be explained using an analogy to the document filing system on a standard PC. Just as a computer must locate information at the directory, file, and line of a file levels, so must the LIE parser identify unique “billing entities” through several levels in the XML bill. *Table 2* defines the analogy between the bill XML patterns and PC filing system:

Table 2 – Bluegill XML Verizon Bill and PC Filing System

Customer Bill	Example Bill Content	PC Hard Drive
One Verizon Bill	Universe of a single Verizon Bill text rendered on the screen. (See an example of the proposed bill in Figure 1 on page 10.)	Hard Disk
Context ID	BLUEGILL.XML example /XML-S/STATEMENT/DETAILS/CHARGES SUMMARY/	The full directory path to a single folder within the PC directory structure
Line Item ID	line_item_id BABLS_TOT_DET/BABLS_TOT_TEXT	A single line number from a filename found in this folder
Content ID	content_id (32-bit hash of text) f982419230e3d3e273945da1f4b0b6fb Unique identifier for this line item content.	Unique key to this line in the file. A DB analogy would be the primary key to a row in a database.
Pattern = Context ID, Line Item ID, and Content ID	context_id /XML-S/STATEMENT/DETAILS/CHARGES SUMMARY/ line_item_id BABLS_TOT_DET/BABLS_TOT_TEXT content_id (32-bit hash of text) f982419230e3d3e273945da1f4b0b6fb	Path that identifies the folder, filename, and line number within the file
Text	text (displayed on bill) Verizon Basic Local Services	Actual line item text
Billing Entity	context_id /XML-S/STATEMENT/DETAILS/CHARGES SUMMARY/ line_item_id BABLS_TOT_DET/BABLS_TOT_TEXT content_id (32-bit hash of text) f982419230e3d3e273945da1f4b0b6fb text (displayed on bill) Verizon Basic Local Services Billing Entity = Pattern + Text	Director path and location within the file necessary to retrieve the text.

2.2 Billing Entities, Patterns, and Explanations

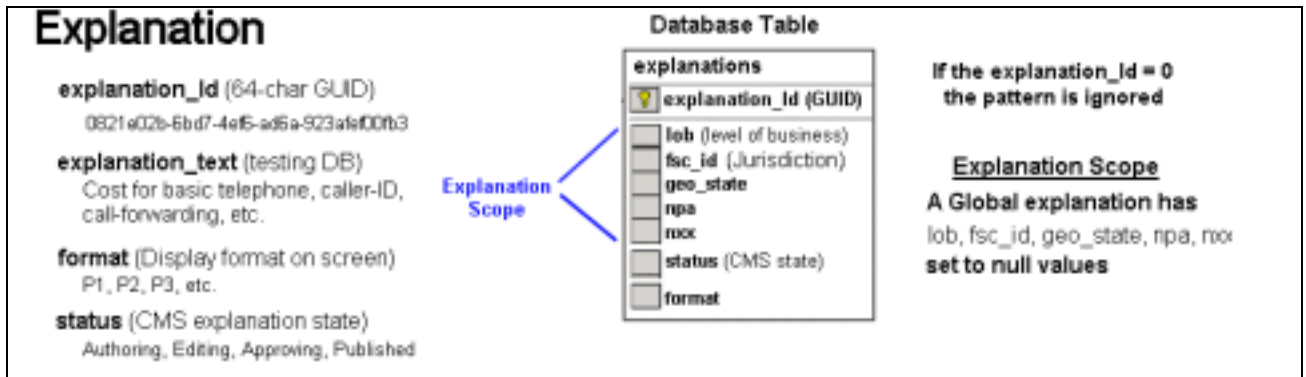
See *Table 2* on page 18 for an actual example of these LIE items.

Billing Entity - A portion of billing text from a Verizon bill that may or may not be explained. The billing entity consists of (1) **context_id**, (2) **line_item_id**, (3) **content_id** (32-bit hash), and (4) the actual **Text** shown on the bill.

Pattern - The portion of the billing entity from a verizon bill that identifies it. The pattern consists of (1) **context_id**, (2) **line_item_id**, and (3) the **content_id** (32-bit hash).

Explanation - Descriptive text that is explains one or more billing entities. The scope of the explanation defines the geographical and organizational billing entities permitted to use this explanation. Five pieces of information (Level of Business, Jurisdiction, State, NPA, and NXX) define the explanation scope

Figure 3 – Billing Entity Explanation

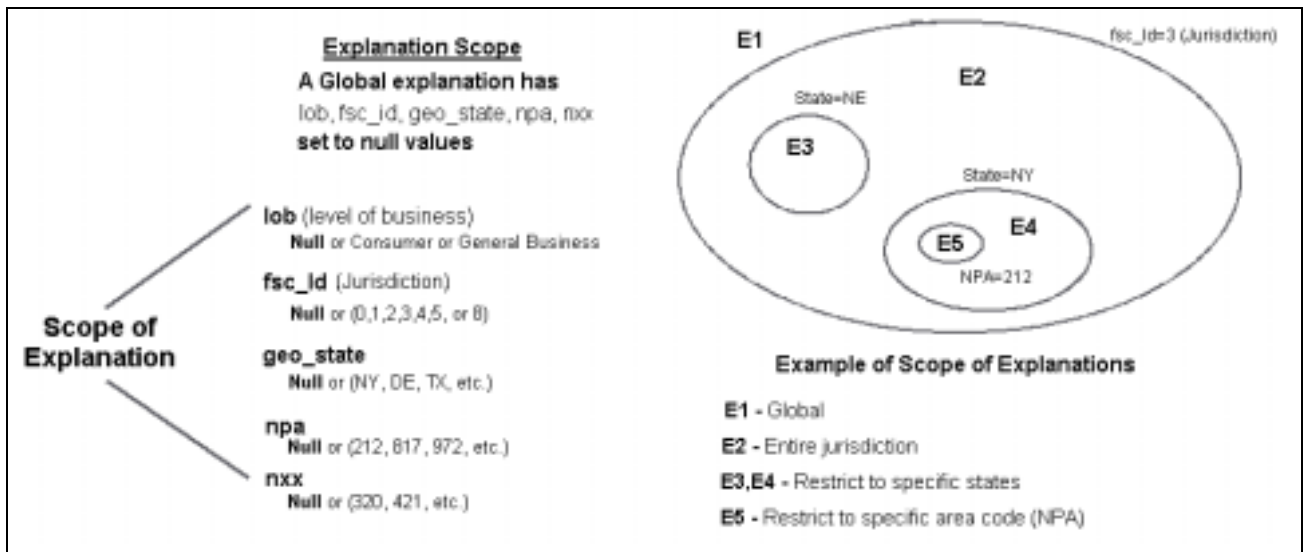


2.3 Explanation Scope

2.3.1 Overview

An explanation can be restricted (or to state it another way, made applicable) to specific billing entities. For example, some explanations may carry State regulatory language that is applicable only to customers within its geographical borders.

Figure 4 – Explanation Scope



A *global* explanation has all the five fields (LOB, fsc_id – Jurisdiction, geo_state, npa, and nxx) set to NULL values.

If an explanation field is **LOB=Consumer** and the remaining fields are NULL values, this explanation applies to only Consumer bills.

An **LOB=GeneralBusiness** and NULL values in remaining fields would restrict this explanation to General Business bills only.

Table 3 – Explanation Scopes (See Figure 4)

E1	E2	E3	E4	E5
lob=Consumer	lob=Consumer	lob=Consumer	lob=Consumer	lob=Consumer
fsc_id=3	fsc_id=3	fsc_id=3	fsc_id=3	fsc_id=3
geostate=	geostate=	geostate=NE	geostate=NY	geostate=NY
npa=	npa=	npa=	npa=212	npa=212
nxx=	nxx=	nxx=	nxx=	nxx=233

2.3.2 Applied to Customer Bills

LIE and CMS use the five fields (LOB, fsc_id – Jurisdiction, geo_state, npa, and nxx) to define the scope of an explanation. When a customer displays their bill and clicks on a line item icon, the LIE-CMS system does a query for all explanations that are associated with this line item.

Suppose a customer clicks on the line item marked “**Unpaid balance**” and the LIE Production database has two explanations stored in its repository. LIE will pick explanation two that is the most explicit or has the more restrictive scope.

Table 4 – Example Explanation Scope

Customer Bill	Explanation One	Explanation Two
lob=Consumer	lob=Consumer	lob=Consumer
fsc_id=0	fsc_id=2	fsc_id=2
geo_state=	geo_state=	geo_state==NY
npa=	npa=	npa=212
nxx=	nxx=	nxx=
Unpaid Balance	“The amount remaining after all payments subtracted”	“The amount remaining after all payments subtracted”. Interest accrues at the rate of 35% APR on unpaid balances after 15 days for NYC residents.

2.4 Ignored Patterns

An ignored pattern is a billing entity that a Content Writer deems cannot be explained. There may be several reasons why a pattern does not have an explanation:

- The explanation may change based on many different contexts (the word **Total Change** has many meanings through a bill)
- The pattern occurs only on selected customer bills (Total Instant Messaging Charges for Wireless)
- The CMS Content writer chooses to ignore this pattern.

2.5 Explanation Status

Each explanation has a *Status* that is related to the CMS authoring use cases. Each explanation, plus the Question and Answers, go through a progression of CMS authoring states.

See *Figure 31 – Content Administration Software Overview* on page 57 for a pictorial representation of the content administration in CMS.

Table 5 – CMS Authoring States

CMS Authoring State	LIE State	Description
<i>none</i>	Selecting	Billing entity selected from bill, yet explanation not saved in the CMS repository.
Saved	Authoring	Explanation saved in CMS repository.
Waiting on Editor Approval	Editing	Explanation authored, saved, and submitted for editorial language approval. This incorporates possible regulatory language applicable to jurisdictions and states.
Editor Decline	Editing	Explanation returned to author for rework.
Waiting on Moderator Approval	Approving	Explanation submitted for final approval.
Moderator Decline	Approving	Explanation not approved. Author-Editor-Moderator cycle repeats itself.
Published	Published	Moderator approves explanation. The explanation identifier, Explanation Status (section 2.5), and Explanation Format (section 2.6) are stored in the LIE Production database.

Figure XX through *Figure YY*, beginning on page *ZZ* show the CMS screens for changing the CMS explanation authoring status. The authoring status changes are done for explanations (Use Case #21 [approving/declining an explanation](#)) and questions/answers (Use Case #30 [approving/declining a question/answer set](#)). Additionally, the final Published state is done with the use cases #22 [publishing an explanation to production](#) and #31 [publishing question/answer set to production](#).

2.6 Explanation Format

When an explanation is returned from the CMS repository it has a *Format* associated with it. Currently the default format is **P1**, which means display the explanation in a pop-up window with a fixed set of dimensions. The explanation Format attribute can be expanded later to include other appropriate display designs.

The user links the displayed bill explanation to a specific line in the bill by noticing that the explanation repeats the term or phrase in the bill in a header in the pop-up displaying the explanation.

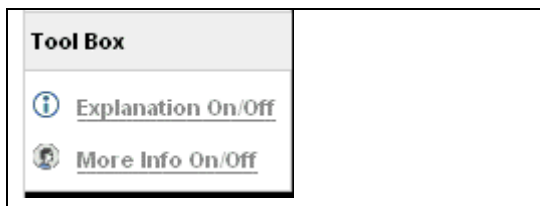
2.7 Explanation Display Control

When the customer's bill is first displayed, all icons used to access line item and billing section explanations are displayed. BillView uses two links in the bill section titled "**Tool Box**" to control the display of explanation icons:

- An "*Explanation On/Off*" link in the **Tool Box** section removes/redispays the explanation icon enhancements from the bill. Clicking this link a second time instructs BillView to re-display the line item explanations on the screen.
- A "*More Info On/Off*" link in the **Tool Box** section removes/redispays the billing section (More Info) enhancements from the bill. Clicking this link a second time instructs BillView to re-display the bill section explanations on the screen.

This preference is *session based*, so for this software release all explanations are displayed the next time the user logs-on to the Verizon BillView site.

Figure 5 – Explanation Control Interface



2.8 Question and Answer Sets

For the Billing Sections (see page 26) and General Information (see page 24) explanations, CMS builds a list of questions and answers similar to a Frequently-Asked Questions (FAQ) page. (See Figure 8 and Figure 9 for examples of these explanations).

The CMS Content Writers develop the Billing Section Help and General Information lists using individual question and answer sets. The use cases that document the creation and approval process are found in *Content Writer – Question/Answer Set Use Cases*, beginning on page 63.

To build these lists, each question and answer set is assigned several attributes:

- **Billing Section Designation** – Universal, Universal, AccountSummary, ChargesSummary, Payment, BasicCharges, OptionalCharges, LocalCalls, AllOtherChargesSummary, Plans, and Regulatory.
- **Explanation Scope** – Each question and answer set is assigned a level or scope that is compared with the customer's bill.
- **Priority** – Each question/answer set is also assigned a priority. (See Figure 7 – *CMS Question and Answers – Edit Question*.) Since there is a limited amount of screen space to display the list of questions, those with the highest priority are listed first in the Billing Section Help or General Information list.

Figure 6 – CMS Question and Answers – Initial Edit Question

Action

Section of Bill

Level

A question exists for this section. Click the following link to view the existing question.

[Question](#)

Figure 7 – CMS Question and Answers – Edit Question

Logout | Home | CMS Tools | Help

Edit Question

Question

Question Text

Answer

Answer Text

Priority

Page Status

2.9 General Information Explanation

A box with the title *General Explanations* displays in the left column of billing pages. Four to eight general explanation links display in the General Explanations box, plus one additional “*More...*” link.

2.9.1 When Displayed

General explanations display when the user clicks:

- Links in the General Explanations box in the left column of billing pages (located below the left navigation links)
- One of the links that display within the General explanation window
- The “*More bill explanations*” link that appears in line item and section explanation pop-ups.

2.9.2 Explanation Organization

The General Information explanation contains several, plus links to all of the other General explanations.

One General explanation could be an explanation of bill explanations themselves. This explanation could be the default explanation, in case the user clicks the “*More...*” link in the General Explanation area of the left column of billing pages, or one of the “*Additional bill explanations*” links in the section and explanation pop-ups.

There must be a default general explanation that is presented when the user clicks “*More...*” in the General Explanations box, or clicks “*Additional bill explanations*” links that appear in the line item and section explanation pop-ups. The default general explanation is recommended to be an explanation of the bill explanations themselves.

An “*Explanation On/Off*” link in the **Tool Box** section removes the explanation icon enhancements from the bill. Clicking this link a second time instructs BillView to re-display the line item explanations on the screen.

2.9.3 Example

General explanation can include such billing questions as:

- What is my current balance?
- How can I view a bill from a previous month?
- How can I lower my bill?
- What are my basic charges each month?
- I’ve signed up for new service. When will I receive my first bill?

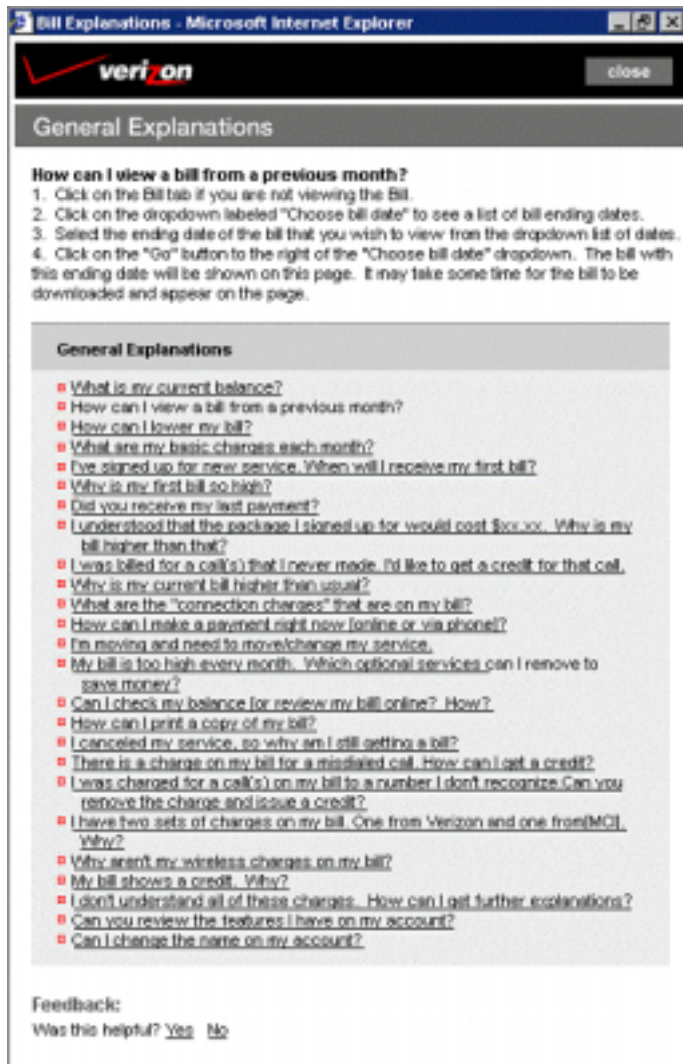
- Why is my first bill so high?
- Did you receive my last payment?
- I understood that the package I signed up for would cost \$xx.xx. Why is my bill higher than that?
- I was billed for a call(s) that I never made. I'd like to get a credit for that call.
- Why is my current bill higher than usual?

- What are the "connection charges" that are on my bill?
- How can I make a payment right now [online or via phone]?
- I'm moving and need to move/change my service.
- My bill is too high every month. Which optional services can I remove to save money?
- Can I check my balance [or review my bill] online? How?

- How can I print a copy of my bill?
- I canceled my service, so why am I still getting a bill?
- There is a charge on my bill for a misdialed call. How can I get a credit?
- I was charged for a call(s) on my bill to a number I don't recognize. Can you remove the charge and issue a credit?
- I have two sets of charges on my bill. One from Verizon and one from [MCI]. Why?

- Why aren't my wireless charges on my bill?
- My bill shows a credit. Why?
- I don't understand all of these charges. How can I get further explanations?
- Can you review the features I have on my account?
- Can I change the name on my account?

Figure 8 – General Explanation



2.10 Billing Section Explanations

A billing section explanation displays when the user clicks on links that appear in sections (Consumer bill) or at the top of the billing page (General Business bill).

Each Billing Section Explanation pop-up contains one explanation; plus links, including the link named *Additional bill explanations*; that bring up general explanations.

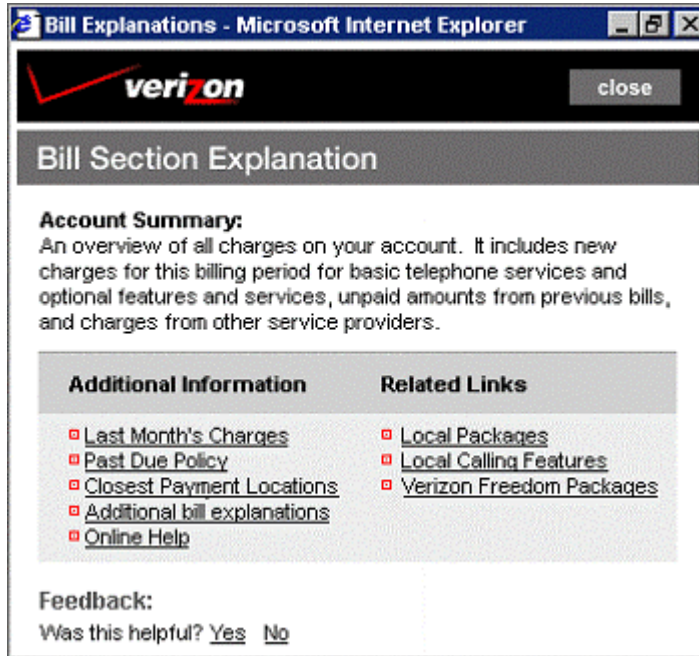
The Billing Section Explanation links are placed on the bill's right edge (Consumer) and across the bill's top (General Business). The Section explanation links display and operate similar to other Verizon bill links.

When the customer's bill is first displayed, all icons used to access line item and billing section explanations are displayed. BillView uses two links in the bill section titled "**Tool Box**" to control the display of explanation icons:

A “*More Info On/Off*” link in the **Tool Box** section removes the billing section (More Info) enhancements from the bill. Clicking this link a second time instructs BillView to re-display the bill section explanations on the screen.

This preference is *session based*, so for this software release the explanations will display the next time the user logs-on to Verizon.

Figure 9 – Billing Section Explanations



2.10.1 Ordering Pages

Links to ordering pages shall dismiss the pop-up and produce a new browser daughter window with the ordering page. A pop-up message or other information needs to be provided to the user to warn the use, “The original billing session remains in the original browser window, and will time out in x minutes.” In usability testing, it is common for consumers to forget to return to the parent browser window when a daughter window is presented.

2.11 Multiple Explanations for a Single Bill Line

For the General Business bill, the content writer must link multiple explanations together, since there is only a single icon on the bill’s line. An example of such a display is shown in Figure xx.

For the Consumer bill, content writers also provide content for left-column line item explanations unless circumstances warrant an exception.

Content writers will also avoid putting explanation question marks next to a dollar amount, since this may imply uncertainty to the Verizon customers.

Figure 10 – Multiple Explanations in Admin and BillView Display Modes

Admin Mode

? Past Due Balances	? Current Charges	? Totals
-------------------------------------	-----------------------------------	--------------------------

BillView Mode

? Past Due Balances	Current Charges	Totals
-------------------------------------	-----------------	--------

Figure 11 – Multiple Explanations for a Single Bill Line

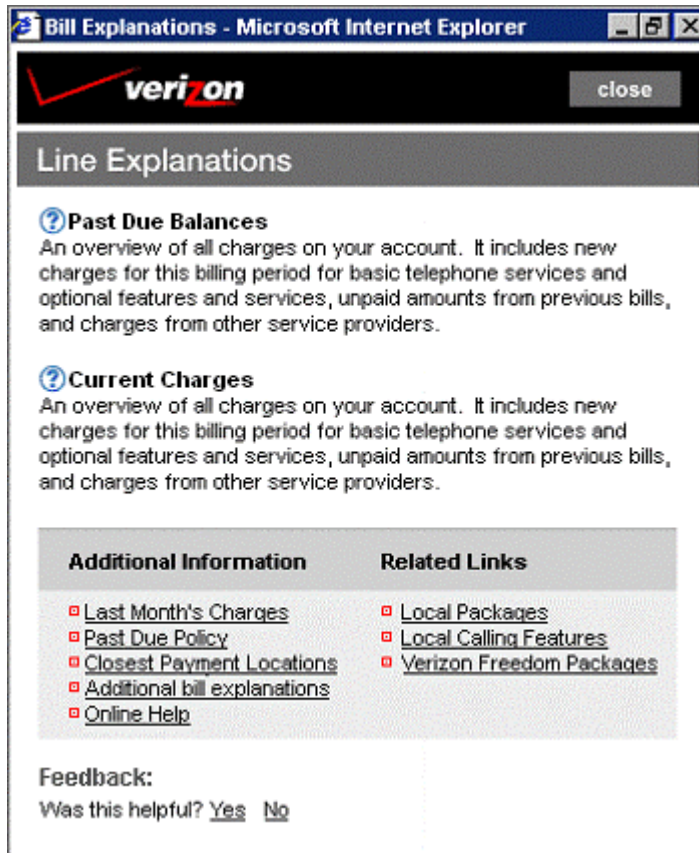


Figure 12 – Single Line Explanations on Bill

The screenshot displays the Verizon Line Item Explanation Admin Tool interface. At the top left is the Verizon logo. The main header reads "Line Item Explanation Admin Tool". Below this, the user's account information is shown: Shaygan Kheradpir, Apt 33B400 E 84, New York NY 10028-5612, Phone # 212 734-3355, and Account # 02127343355199. There are links for "Billing Terms" and "Paper Bill Suppression". The "Bill Date" is set to "Apr 07 2003". A "pay" button is visible. A navigation menu on the left includes links for Home, Pageviews for NYNE, Bill Summary Page, Basic Charges, Verizon Longdistance, Local Section, and AOC Details. The main content area shows "Important Messages", "Download Bills", "Print Current Bill", "Print Current Page", and "User Preferences". The "Account Summary" table lists: Payments and Adjustments (0.00), Previous Balance (97.09), Overdue Balance as of 4-8 please pay now (disregard if paid) (97.09), Current Bill Period April 7, 2003, New Charges (28.56), Verizon Basic Local Services (28.56), Verizon Calls (4.06), Verizon Optional Services (3.97), All Other Charges (60.12), Total New Charges Due by May 2, 2003 (96.71), and Total Amount Due (\$193.88). A note at the bottom states: "PLEASE DO NOT PAY THIS BILL. Total Amount Due will be deducted from your credit card automatically on 5-02-03".

Account Summary	
Payments and Adjustments	0.00
Previous Balance	97.09
Overdue Balance as of 4-8 please pay now (disregard if paid)	97.09
Current Bill Period April 7, 2003	
New Charges	
Verizon Basic Local Services	28.56
Verizon Calls	4.06
Verizon Optional Services	3.97
All Other Charges	60.12
Total New Charges Due by May 2, 2003	96.71
Total Amount Due	\$193.88

PLEASE DO NOT PAY THIS BILL. Total Amount Due will be deducted from your credit card automatically on 5-02-03

3 Content Management System

3.1 Content Stored

The CMS repository contains:

- Bill line item explanations
- Question and answers for billing sectional help (Universal help included)
- Product descriptions that can be linked to individual explanations

3.2 Communication from the LIE Admin Software

The LIE Admin software passes information to the CMS system in Admin mode and when BillView displays billing statements in production. An example of the Internet Uniform Resource Locators (URLs) used to communicate with CMS is illustrated in *Figure 13 – LIE to CMS URL Examples*.

Figure 13 – LIE to CMS URL Examples

Admin Mode:

For a New Explanation:

```
http://sacgllrcmw09.itsgll.itcent.ebiz.verizon.com/Blie/Management/
index.aspx?Context=DETAILS/REGULATORY_MESSAGES&LineItem=REG_MSG_LINE/REG_MSG_TXT2
&ContentId=59c7dd873ee4c9bc6a1c7830a2c45c&Text=Toll%20Free%20in%20NY%20State
&AccountNumber=2127343355199&BillDate=2003/04/07&Fsc=3&State=NY&NPA=212&NXX=734&Lob=C
```

For an existing explanation:

```
http://sacgllrcmw09.itsgll.itcent.ebiz.verizon.com/Blie/Management/
index.aspx?Guid={f7d0fb37-f09e-465b-a3c8-39e9ff98c458}&Context=DETAILS/ACCOUNT_SUMMARY
&LineItem=PREVIOUS_BALANCE_DET/PREVIOUS_BALANCE_TEXT&ContentId=69997d661c6e42bf0194e6ale85fa65
&Text=Previous%20Balance
&AccountNumber=2127343355199&BillDate=2003/04/07&Fsc=3&State=NY&NPA=212&NXX=734&Lob=C
```

Billview Mode:

```
http://sacgllrcmw09.itsgll.itcent.ebiz.verizon.com/BlieContent/ItemExplanation.aspx?Guid={f7d0fb37-f09e-465b-a3c8-39e9ff98c458}&AccountNumber=2127343355199&BillDate=2003/04/07&Fsc=3&State=NY&NPA=212&NXX=734&Lob=C
```

General Explanations:

```
http://sacgllrcmw09.itsgll.itcent.ebiz.verizon.com/BlieContent/GeneralExplanations.aspx
```

<p>Section Explanations: http://sacgllrcmw09.itsgll.itcent.ebiz.verizon.com/BlieContent/SectionExplanations.aspx Section help has argument list, but it has not been nailed down what argument list is.</p>
--

Figure 14 – Multiple Items within a Single Call to CMS

Multiple Explanation IDs (GUIDs) in one call:

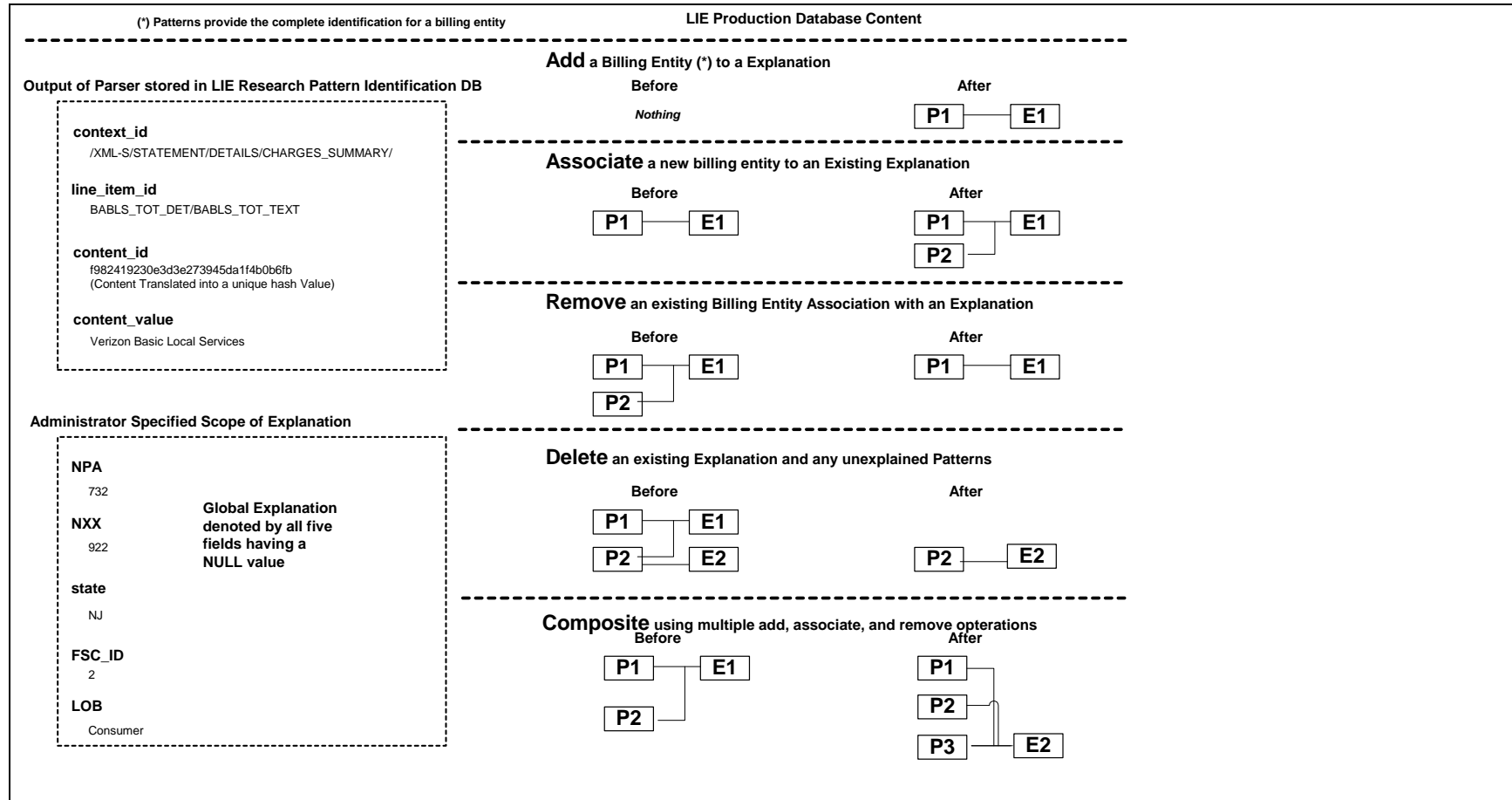
To be Added after discussion with CMS Team

Multiple Sections (GUIDs) in one call:

To be Added after discussion with CMS Team

3.3 Logical LIE-CMS Transactions

Figure 15 – LIE-CMS Logical Transactions



3.4 Mapping LIE to CMS Functionality

In Admin parsing mode, the LIE software supports these functions:

- A. A Billing Entity is **Explained** (An explanation identifier, GUID for the programmer geeks)
- B. A Billing Entity is **Ignored** (The explanation identifier is a zero GUID)
- C. A Billing Entity is **Unexplained**. (No explanation identifier associated with pattern.)

Based upon this functionality, CMS must support these operations:

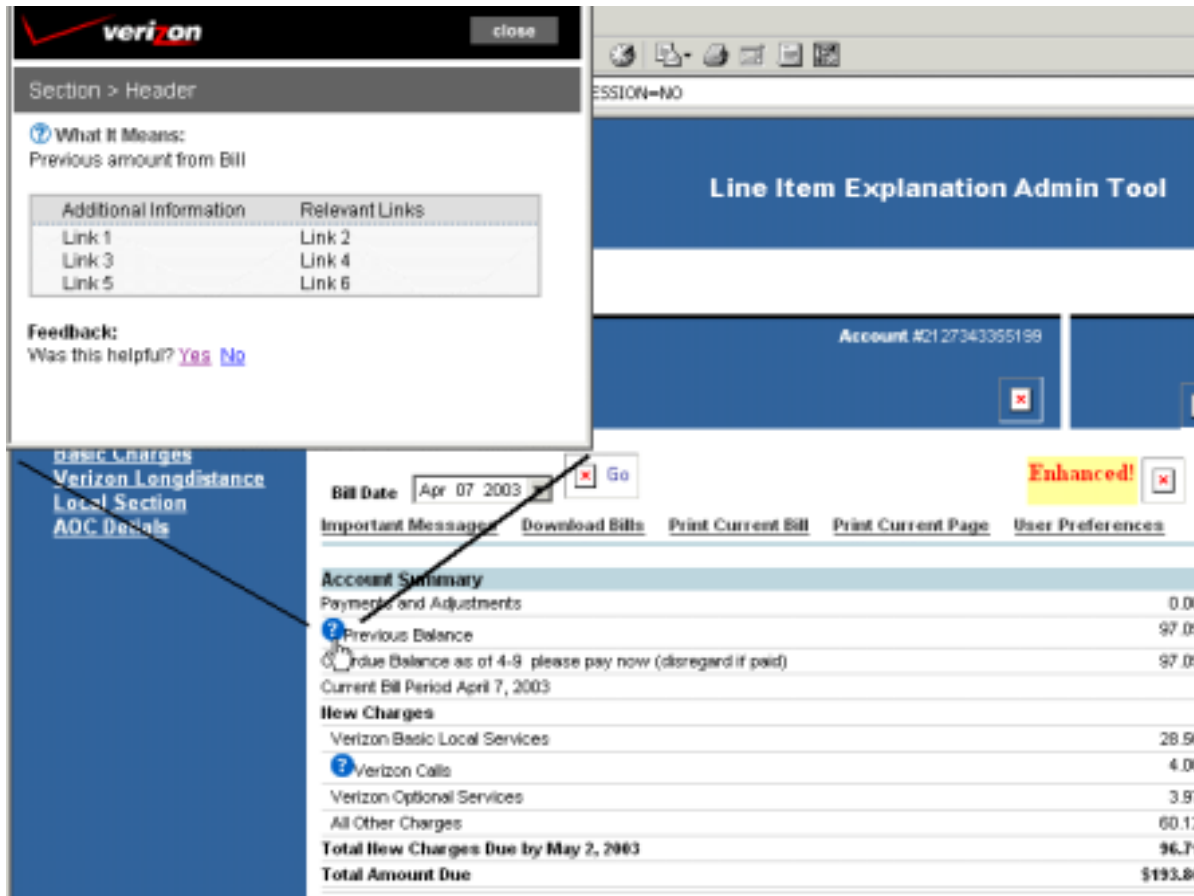
1. Create new explanations (change in text or scope)
2. Edit existing explanations (change in text or scope)
3. Associate a billing entity (pattern) to existing explanation
4. Associate a billing entity to an ignored explanation [*I thought we ignore billing entities, not explanations*]
5. Associate billing entity to a product description [CMS associates product descriptions to explanations]
6. Delete billing entity associated to an existing explanation
7. Delete an explanation and any associated entities that are no longer linked to explanations

Table 6 – LIE-CMS Required Functionality Mapping

Mode	Has Explanation Identifier ?	Functionality Description	Parameters Passed to CMS
Prod	Yes	Show Billing Explanation	Account, explanation_Id (GUID)
Prod	No – Billing Section Help	Show Section Help	Section_Id, GUID
Admin	Yes	Add/Ignore/Delete Billing Explanation	Account, billing pattern, explanation_id (GUID)
Admin	Yes	Delete Billing Entity	Account, billing pattern, explanation_id (GUID)
Admin	No	Add / Ignore / Associate Billing Explanation	Account, billing pattern
Admin	No	Associate Product Description	Account, billing pattern

4 Use Cases and System Integration

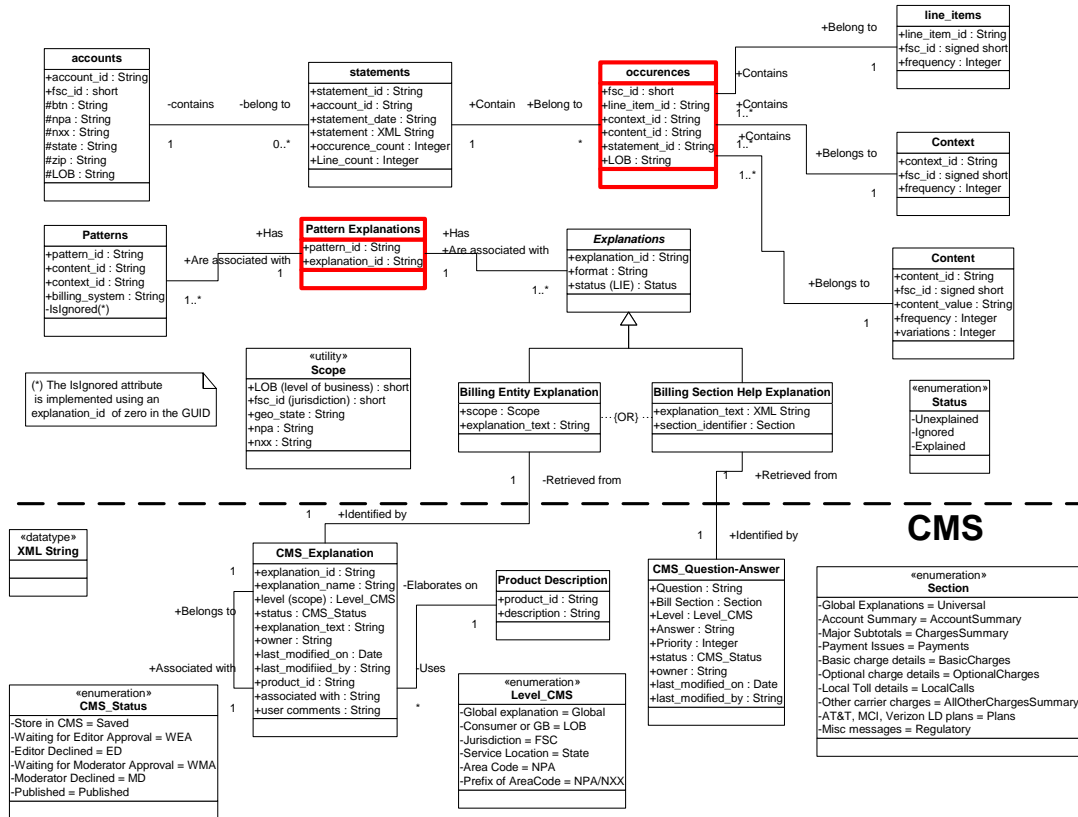
Figure 16 – Explanation in CMS Authoring Tool



4.1 Functional Data Model

The LIE application entities are organized in as patterns, billing entities, account identification, and explanations. The relationship between these entities is described in Figure 17.

Figure 17 – LIE-CMS Data Model



4.2 Functional Data Model

The next three figures describe the relationships between the LIE-CMS-BillView Use Cases and the actors in the systems.

Figure 18 – Reporting Use Cases

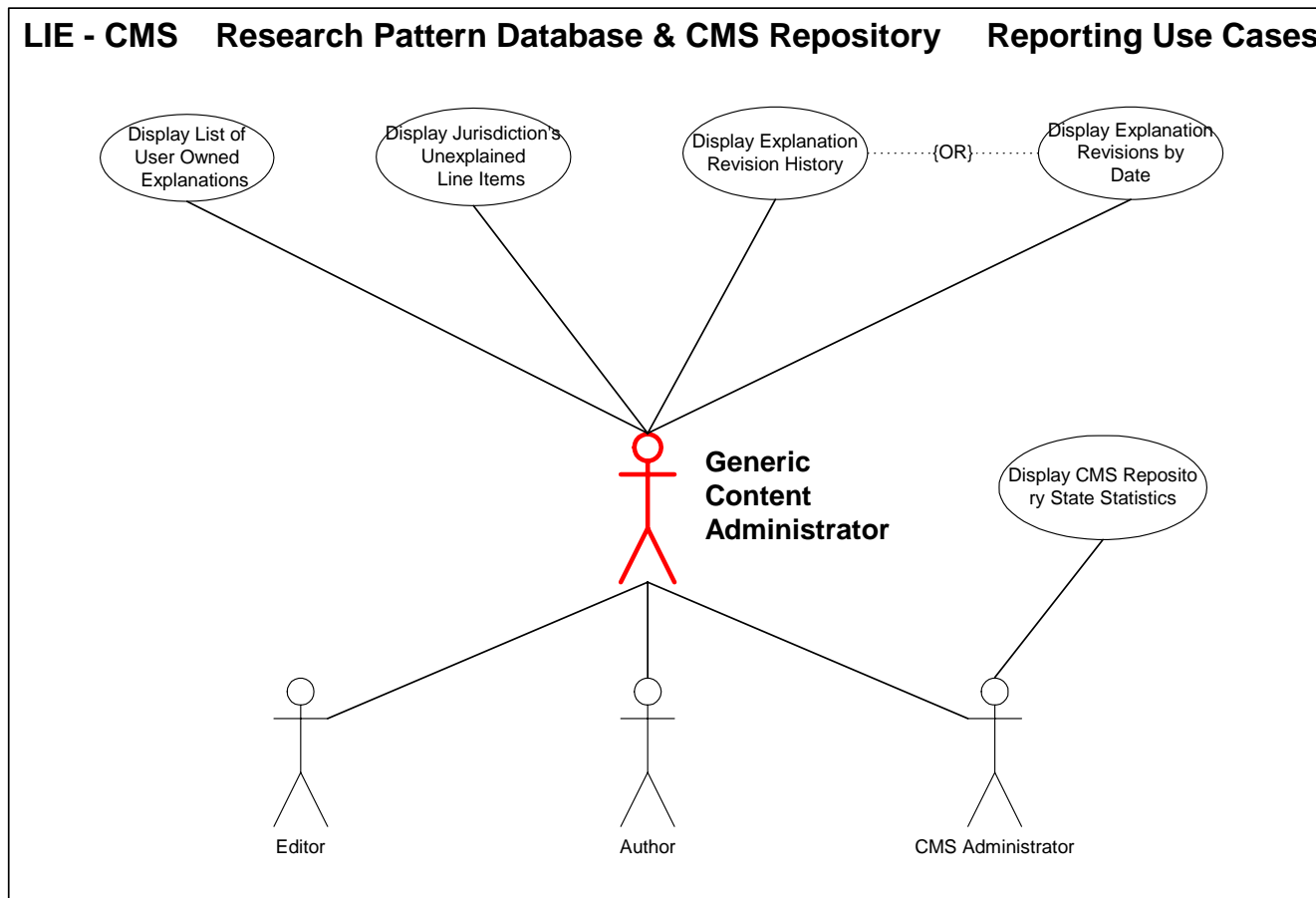


Figure 19 – Customer Use Cases

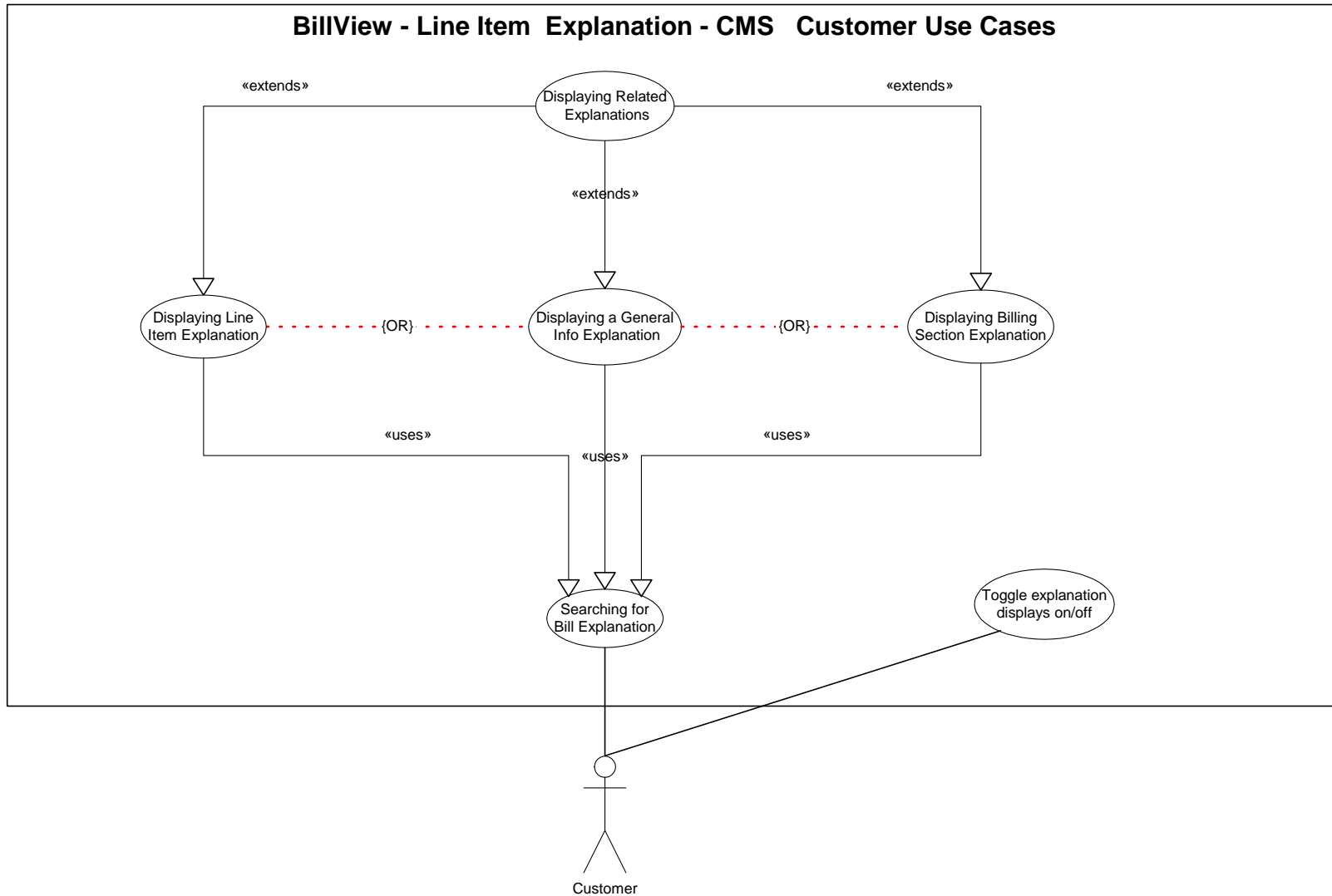
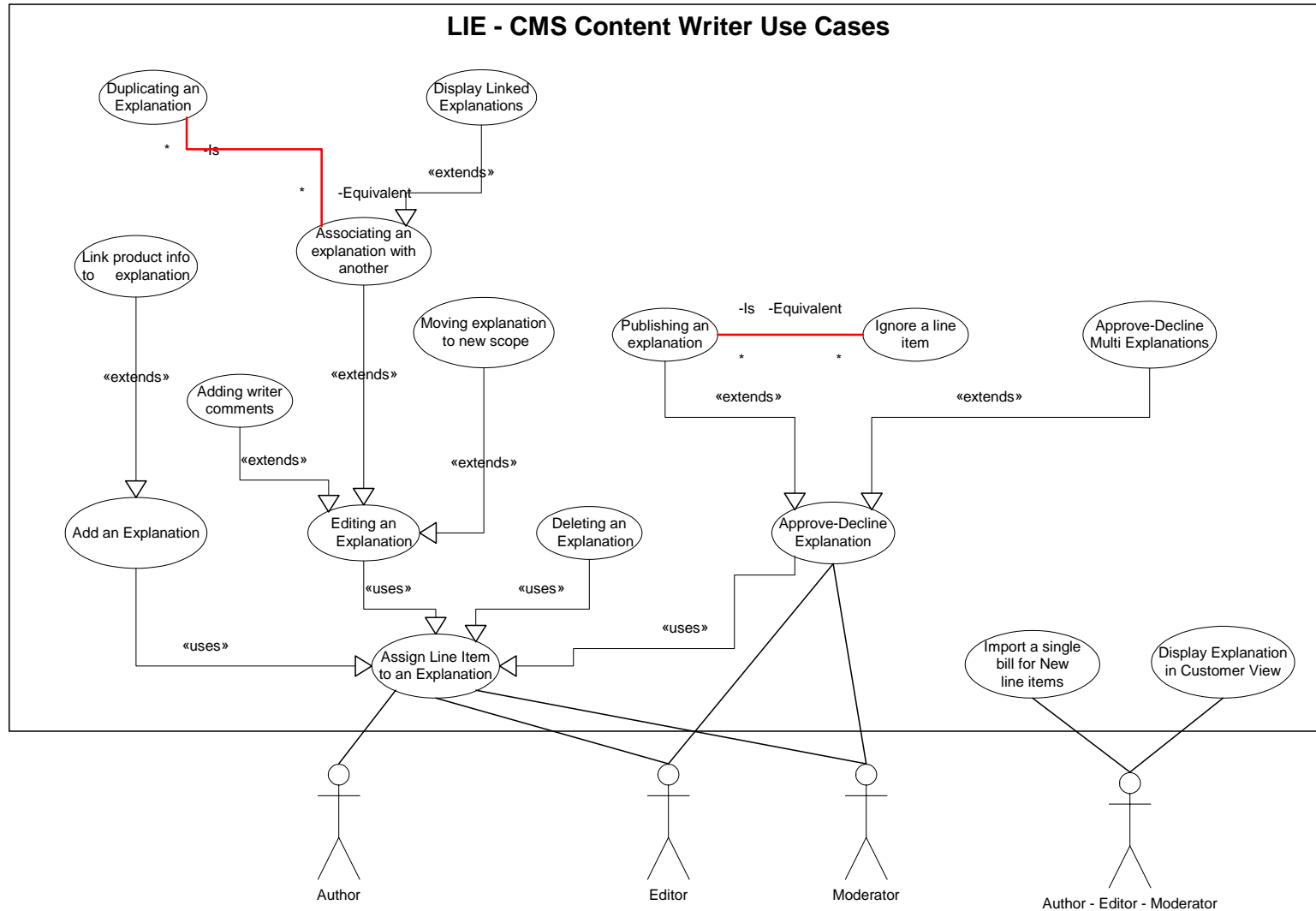
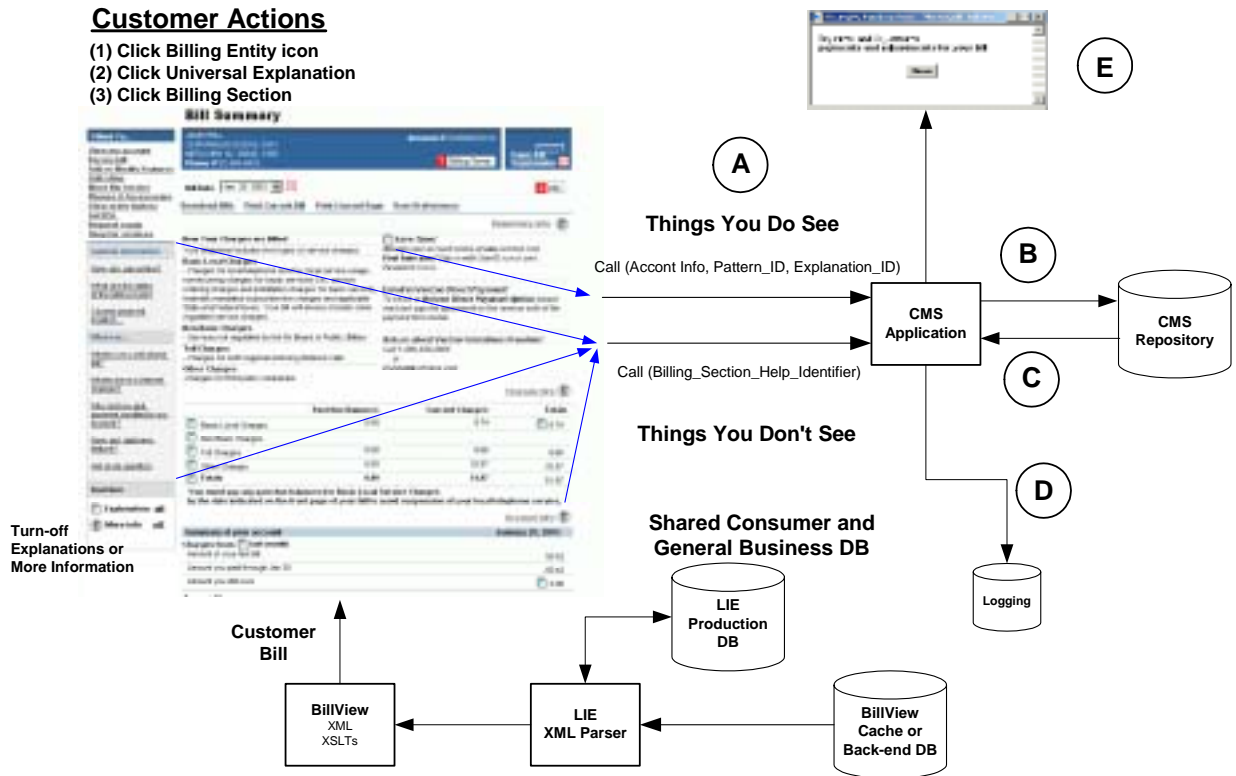


Figure 20 – Content Writer Use Cases



5 Customer Use Cases

Figure 21 – Production Customer-System Data Flow



5.1 General Precondition - Customer Use Cases

Prior to displaying any of the three types of bill explanations, a customer must perform a series of steps to get BillView to display a bill. Use Case #1 searching for a billing explanation describes the initial steps that a customer goes through before they can display an explanation on their bill.

#1 searching for a billing explanation

Business Requirements

#1.01 “Applicable to all formats in the East for Consumer and General Business customers.”

#1.02 “Provide an explanation for entities/charges on the online bill in context for any particular bill dependent on explanations provided by the Business..”

#1.04 “System shall adhere to standard Verizon.com page elements for verizon.com pages.”

Actors/Roles

- Registered residential customer
- Registered general business customer

Intent or Actor Purpose

Prior to requesting any bill explanations, the Verizon customer logs-on to Verizon.com, selects a billing statement associated with their account number, and displays the bill with an Internet Browser. After browsing the bill, the customer identifies explanation indicators that are located next to billing phrases. Customer clicks an indicator or billing section link to get an explanation of a particular charge or billing phrase.

Relationship to Other Use Case(s)

This precondition is included for all customer use cases.

Preconditions

- LIE and BillView production systems are active
- Customer has displayed the www.verizon.com home page
- The customer has a valid user ID and password for Verizon.com.
- There is at a minimum, one statement associated with the customer's account number.

Table 7 – Basic Course of Events: #1 searching for a bill explanation

User Action	LIE-CMS System Action
1. Customer selects the BillView link and follows the existing registration process by providing valid account and password, as shown in Figure 22 on page 41.	
	2. The registration middle tier authenticates username and password. Site Minder authenticates the username and password and establishes an Internet session.
	3. After receiving the customer's credentials from Registration, BillView retrieves the latest available bill from Oracle DB.
	4. Bill View parses the billing records, identifies LIE tags, and formats the bill for display. An example is found in Figure 23 on page 42.
5. Customer browses the online bill and identifies line items explanation indicators located next to billing phrases.	
6. Customer chooses one of three explanation types:	
	<ul style="list-style-type: none"> • Question mark icon for an explanation of specific line item. • One of the links in the General Information box in the left column to see answers to Billing Questions, and a list of "more" questions. • One of the links at the top of each section of the bill to get explanations of that section.

Post Conditions

Customer has chosen an explanation type they want to display.

Related Business Rules

None

Graphical User Interfaces

See Figure 22 and Figure 23.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *Line Item Explanation - Consolidated AR General Design*

Figure 22 – Access Verizon.com and View My Bill

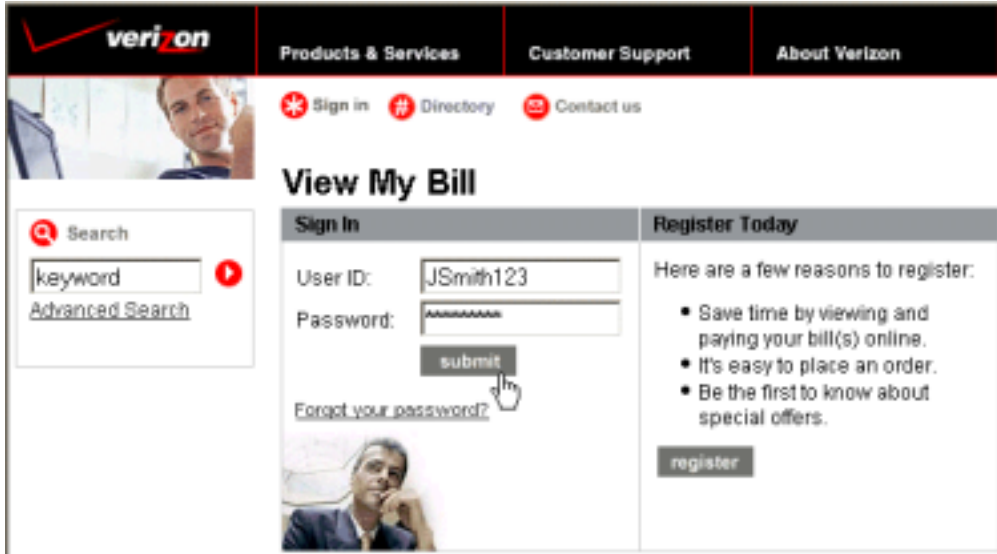


Figure 23 – Customer Displays Bill

The screenshot displays the Verizon Line Item Explanation Admin Tool interface. At the top left is the Verizon logo. The top right header reads "Line Item Explanation Admin Tool". Below the logo is a navigation menu with links: Home, Pageviews for NYNE, Bill Summary Page, Basic Charges, Verizon Longdistance, Local Section, and AOC Details. The main content area shows account information for Sheygen Khrodop, Apt 33B400 E 84, New York NY 10038-5612, Phone # 212 734-3355, and Account # 2127343355199. There are buttons for "Billing Terms" and "Paper Bill Subscription". The bill date is set to "Apr 07 2003". A yellow "Enhanced!" badge is next to a "pay" button. Below this are links for "Important Messages", "Download Bills", "Print Current Bill", "Print Current Page", and "User Preferences". The "Account Summary" section includes a table with the following data:

Account Summary	
Payments and Adjustments	0.00
Previous Balance	97.09
Overdue Balance as of 4-9 please pay now (disregard if paid)	97.09
Current Bill Period: April 7, 2003	
New Charges	
Verizon Basic Local Services	28.56
Verizon Calls	4.05
Verizon Optional Services	3.97
All Other Charges	60.12
Total New Charges Due by May 2, 2003	96.71
Total Amount Due	\$193.80

At the bottom, a note states: "PLEASE DO NOT PAY THIS BILL. Total Amount Due will be deducted from your credit card automatically on 5-02-03".

5.2 Verizon Customer Use Cases

The Verizon customer displays explanations for their online Bill or selects not to see explanations icons posted on the bill.

- #1 searching for a bill explanation (Precondition for all Customer Use Cases)
- #3 displaying a line item explanation
- #4 displaying a General Information explanation (*)
- #5 displaying a billing section explanation
- #6 displaying related explanations
- #7 toggling the explanation icon display on/off

5.3 Displaying Explanation Use Cases

The mechanics for displaying the three types of bill explanations begin with the #1 searching for a bill explanation use case and end with the explanation displayed in a pop-up window. In each instance the bill account information and the explanation identifier (a GUID or a fixed section identifier) is passed to CMS to display the requested explanation or list of questions.

#3 displaying a line item explanation**Business Requirements**

#1.02 “The system shall provide an explanation for entities/charges on the online bill in context for any particular bill dependent on explanations provided by the Business.”

#3.01 “The system shall be able to display the explanations in a manner that would be intuitive to the customer, that is, icons, links, pop-ups, etc ”

Actors/Roles

- Registered residential customer
- Registered general business customer

Intent or Actor Purpose

Customer has a specific question about a line item on the bill. The line item has an icon indicating that an explanation (🔗) exists for this line item. Clicking the icon displays the related explanation.

Relationship to Other Use Case(s)

Similar to:

#4 displaying a General Information explanation

#5 displaying a billing section explanation

Preconditions

- **#1 searching for a bill explanation**
- The CMS Production systems are online and loaded with the most current explanation content.

Table 8 – Basic Course of Events: #3 displaying a line item explanation

User Action	LIE-CMS System Action
1. Customer does not understand a billing term or bill charge and clicks the corresponding icon to get an explanation.	
	2. BillView passes an explanation identifier to CMS as shown in Figure 13 on page 30.
	3. CMS receives the explanation identifier and retrieves the corresponding explanation and displays it in a pop-up window (Figure 24 on page 45). Refer to alternative path 3a for scenario exception.
	4. CMS logs customer information and the specific explanation displayed.
5. Customer views the corresponding line item explanation.	
6. Customer clicks outside the pop-up window to remove the explanation window.	

User Action	LIE-CMS System Action
Alternative Path for Step (1): Customer clicks Universal or Billing Section Help	
1a-1. User alternatively clicks on a universal or billing section help link.	
1a-2.	Bill View passes a billing section or universal identifier to CMS as illustrated in Figure 13 on page 30.
1a-3.	CMS parses Bill View's instructions, then retrieves the corresponding section question and answers, and displays the list in a pop-up window.
1a-4. Customer views the corresponding bill section question and answers. (See Figure 27 on page 50.)	
Alternative Path for Step (3): CMS not operationally available (no explanation)	
3a-1.	CMS is unable to retrieve the requested description and returns an error code to Bill View.
3a-2.	BillView identifies the error and notifies the customer that the particular explanation is not currently available.
3a-3.	Return to main flow.

Post Conditions

- Customer reads an online explanation of the selected line item.
- CMS logs the customer's explanation request for reporting by eDesk.

Related Business Rules

The scope of the explanation (see sections *Explanation Scope* and *Applied to Customer Bills* beginning on page 19) *must include* the customer's level of business, jurisdiction, state, NPA, and NXX prefix.

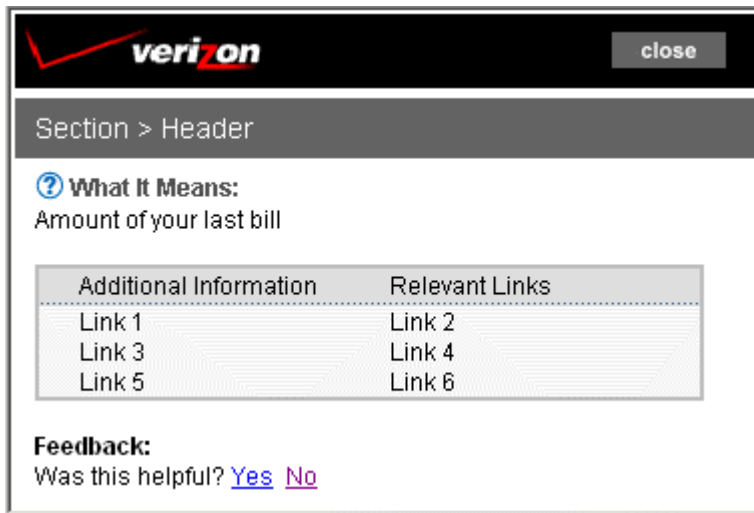
Graphical User Interfaces

See Figure 24.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *Design Requirements for Explanation of Billing Charges*
- *Line Item Explanation - Consolidated AR General Design*

Figure 24 – Explanation Displayed for “Previous Balance”



#4 displaying a General Information explanation

Business Requirements

#4.01 “The system shall provide some new Frequently-Asked Questions (FAQs) to support explanation of the charges on the bill.”

#4.03 “Tips may be needed to be added to provide the customer with information about getting an explanation of the charge.”

Actors/Roles

- Registered residential customer
- Registered general business customer

Intent or Actor Purpose

Customer has a general question about billing (see *Example* on page 24 for an example of customer Billing Questions). The customer clicks in the left-hand side section of the bill.

Relationship to Other Use Case(s)

Similar to:

#3 displaying a line item explanation

#5 displaying billing section explanation

Preconditions

- **#1** searching for a bill explanation
- The CMS Production systems are online and loaded with the most current explanation content.

Table 9 – Basic Course of Events: #4 displaying General Information explanation

User Action	LIE-CMS System Action
1. Customer has a general question regarding their bill that may have been addressed in the General Information (general, universal, My Questions) explanation.	
	2. Bill View passes the account information and the general explanation identifier to CMS as shown in Figure 13 on page 30.
	3. CMS retrieves the billing questions that match the scope of the user's bill, and displays them in a pop-up window as a set of links to individually answered questions (Figure 25 on page 47). Refer to alternative path 3a for scenario exception.
	4. CMS logs the user account information, noting time, date, user account that requested the billing questions explanation.
5. Customer views the billing questions explanation.	
6. Customer clicks outside the pop-up window to remove the explanation window.	
Alternative Path for Step (1): Customer clicks billing section help.	
1a-1. User alternatively clicks billing section help link.	
1a-2.	Bill View passes account information and a billing section identifier to CMS as illustrated in Figure 13 on page 30.
1a-3.	CMS extracts the billing section identifier and retrieves all question/answer sets that fit the customer's bill scope. The links are prioritized based on a numerical priority assigned by the content writers. (See Use Case #5 <u>displaying a billing section explanation</u> on page 48 for more details.)
1a-4.	CMS displays the question/answer sets as a list of links. (See Figure 27 on page 50.) Each link corresponds to the answer for a single question.
1a-6. Customer views the corresponding bill section question and answers.	
Alternative Path for Step (3): CMS not operationally available (no explanation)	
3a-1.	CMS is unable to retrieve the requested description and returns an error code to Bill View.
3a-2.	BillView identifies the error and notifies the customer that the particular explanation is not currently available.
3a-3.	Return to main flow.

Post Conditions

- Customer reads the billing questions explanation as shown in Figure 25 (page 47) and the pop-up window is removed.
- CMS logs the customer's billing questions explanation request for reporting by eDesk.

Related Business Rules

The scope of the billing question/answer sets (see sections *Explanation Scope* and *Applied to Customer Bills* beginning on page 19) *must include* the customer's level of business, jurisdiction, state, NPA, and NXX prefix.

Graphical User Interfaces

See Figure 25 – *General Information Explanation* on page 47.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *Design Requirements for Explanation of Billing Charges*
- *Line Item Explanation - Consolidated AR General Design*

Figure 25 – General Information Explanations

General Explanations

How can I view a bill from a previous month?

1. Click on the Bill tab if you are not viewing the Bill.
2. Click on the dropdown labeled "Choose bill date" to see a list of bill ending dates.
3. Select the ending date of the bill that you wish to view from the dropdown list of dates.
4. Click on the "Go" button to the right of the "Choose bill date" dropdown. The bill with this ending date will be shown on this page. It may take some time for the bill to be downloaded and appear on the page.

General Explanations

- ▣ [What is my current balance?](#)
- ▣ [How can I view a bill from a previous month?](#)
- ▣ [How can I lower my bill?](#)
- ▣ [What are my basic charges each month?](#)
- ▣ [I've signed up for new service. When will I receive my first bill?](#)
- ▣ [Showing your previous bills](#)
- ▣ [Understanding prorated charges and credits](#)
- ▣ [Finding why this month's bill is higher than usual](#)
- ▣ [Finding charges for toll phone calls](#)
- ▣ [How to view your cell phone bill](#)
- ▣ [Combining your cell phone bill with this bill](#)
- ▣ [Bill is not updated to show recent payments](#)
- ▣ [Finding out more information about taxes and surcharges](#)
- ▣ [Who to call about your long-distance service questions](#)
- ▣ [How to find out details on long-distance charges](#)
- ▣ [How to find details on Verizon charges](#)
- ▣ [Problems with multiple payments on my bill](#)
- ▣ [Determining when you must pay your phone bill](#)
- ▣ [How to change your phone calling plans](#)

Feedback:
Was this helpful? [Yes](#) [No](#)

#5 displaying a billing section explanation**Business Requirements**

#1.03 “The system shall provide an explanation of billing concepts (in context) associated with a bill that may not appear as a line on the bill, that is, bill period, credits, etc.”

#2.01 “The system shall enable the identification of an entity/charge by the Business; including bill sections, headers, subsections, grid headings, messages, phrases, usage, toll, credits, charges, etc.”

Actors/Roles

- Registered residential customer
- Registered general business customer

Intent or Actor Purpose

Customer wants a general explanation about a selected section of the bill. Clicking on a link at the top of the bills section, displays a list of Billing Section questions in a pop-up window. Clicking a link displays the answer to that question or can take the customer to a list of “*more*” questions.

Relationship to Other Use Case(s)**Similar to:**

#3 displaying a line item explanation

#4 displaying General Information explanation

Preconditions

- **#1** searching for a bill explanation
- The CMS Production systems are online and loaded with the most current explanation content.

Table 10 – Basic Course of Events: #5 displaying a billing section explanation

User Action	LIE-CMS System Action
1. Customer has a general question regarding their bill that may have been addressed in the billing section explanation.	
	2. Bill View passes the account information and the billing section explanation identifier to CMS as shown in Figure 13 on page 30.
	3. CMS retrieves the billing section questions/answer sets that match the scope of the user’s bill, and displays them in a pop-up window as a set of links to individually answered questions (See Figure 27 on page 50) Refer to alternative path 3a for scenario exception.
	4. CMS logs the user account information, noting time, date, user account that requested the billing section explanation.
5. Customer views the billing section explanation.	
6. Customer clicks outside the pop-up window to remove the explanation window.	

User Action	LIE-CMS System Action
Alternative Path for Step (1): Customer clicks General Information help.	
1a-1. User alternatively clicks General Information help link.	
1a-2.	Bill View passes account information and the billing questions identifier to CMS as illustrated in Figure 13 on page 30.
1a-3.	CMS extracts the billing questions identifier and retrieves all question/answer sets that fit the customer's bill scope. The links are prioritized based on a numerical priority assigned by the content writers. (See Use Case #4 displaying a General Information explanation on page 45 for more details.)
1a-4.	CMS displays the question/answer sets as a list of links. (See Figure 27 on page 50.) Each link corresponds to the answer for a single question.
1a-6. Customer views the corresponding General Information links.	
Alternative Path for Step (3): CMS not operationally available (no explanation)	
3a-1.	CMS is unable to retrieve the requested description and returns an error code to BillView.
3a-2.	BillView identifies the error and notifies the customer that the particular explanation is not currently available.
3a-3.	Return to main flow.

Post Conditions

- Customer reads an online explanation from the billing section questions and the pop-up window is removed.
- CMS logs the customer's explanation request for reporting by eDesk.

Related Business Rules

The scope of the billing section question/answer sets (see sections *Explanation Scope* and *Applied to Customer Bills* beginning on page 19) *must include* the customer's level of business, jurisdiction, state, NPA, and NXX prefix.

Graphical User Interfaces

Figure 26 and Figure 27.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *Design Requirements for Explanation of Billing Charges*
- *Line Item Explanation - Consolidated AR General Design*

Figure 26 – Billing Section Links

Account Summary		Account Summary Help
Previous Balance	81.76	
Payment Received 6-3 -- Thank You	81.76cr	
Current Bill Period June 7, 2003		
Balance as of 6-11	0.00	
New Charges		Billing Section Explanation Links
Verizon Basic Local Services	14.85	
Verizon Optional Services	76.36	
All Other Charges	23.93	
Total New Charges Due by July 2, 2003	115.14	
Total Amount Due	\$115.14	
PLEASE DO NOT PAY THIS BILL. Total Amount Due will be deducted from your credit card automatically on 7-02-03		
New Charges		Charges Summary Help
This list represents all the charges for this month's bill. Click on a service name to see a complete breakdown of charges.		
Verizon	91.21	
Verizon	91.21	
Verizon Long Distance	\$6.02 cr	
Verizon Online	29.95	

Figure 27 – Billing Section Explanation

Bill Explanations - Microsoft Internet Explorer
_ | | X

close

Bill Section Explanation

Account Summary:
 An overview of all charges on your account. It includes new charges for this billing period for basic telephone services and optional features and services, unpaid amounts from previous bills, and charges from other service providers.

Additional Information	Related Links
<ul style="list-style-type: none"> Last Month's Charges Past Due Policy Closest Payment Locations Additional bill explanations Online Help 	<ul style="list-style-type: none"> Local Packages Local Calling Features Verizon Freedom Packages

Feedback:
 Was this helpful? [Yes](#) [No](#)

#6 displaying related explanations**Business Requirements**

#2.04 *“The system shall be able to identify and explain an entity as a plan/product/service, when available.”*

#2.05 *“The system shall provide the ability to use the plans/products/services content in CMS along with explanations provided when chosen to display to the customer.”*

Actors/Roles

- Registered residential customer
- Registered general business customer

Intent or Actor Purpose

Customer has displayed an explanation for a line item, billing questions, or billing section. The customer wants additional product information or selects the question link that they believe most appropriately fits their need.

Relationship to Other Use Case(s)**Extends:**

#3 displaying a line item explanation

#4 displaying billing questions explanation

#5 displaying billing section explanation

#14 displaying explanation in customer view

Preconditions

- **#1** searching for a bill explanation
- The CMS Production systems are online and loaded with the most current explanation content.
- Customer has chosen one of three explanation types:
 - Question mark icon for an explanation of specific line item.
 - One of the links in the General Explanations box in the left column to see answers to General Information, and a list of *“more”* questions.
 - One of the links at the top of each section of the bill to get explanations of that section.

Table 11 – Basic Course of Events: #6 displaying related explanations

User Action	LIE-CMS System Action
1. Customer clicks a link inside the explanation window.	
	2. The explanation identifier is passed to CMS and a new explanation window displays. The new window is a pop-up for answer to a specific question or it is a daughter window containing online help or a product description.
3. Click the Close button in the explanation window upper right-hand corner.	

User Action	LIE-CMS System Action
Alternative Path for Step (3): Actor clicks one of {related links, feedback response}	
3a-1. Click one of the links listed under [Additional Information Relevant Links].	
	3a-2. An appropriate Verizon.com page displays in the window that corresponds to the selected link.
3a-3. Click the Close button in the explanation window upper right-hand corner.	
	3a-4. CMS window closes and the LIE Admin tool window remains displayed.
3b-1. Click [Yes No] link under Feedback.	
	3b-2. CMS responds with a comment (Thank You).
3b-3. Click the Close button in the explanation window upper right-hand corner.	
	3b-4. CMS window closes and the LIE Admin tool window remains displayed.

Post Conditions

- An explanation linked to the original line item explanation (Figure 27 on page 50) is displayed.
OR
- An answer to a specific question in the billing questions explanation list or billing section explanation list displays.
OR
- A product description (see Figure 28) is displayed.
OR
- Online Help or another list of related links is displayed

Related Business Rules

None

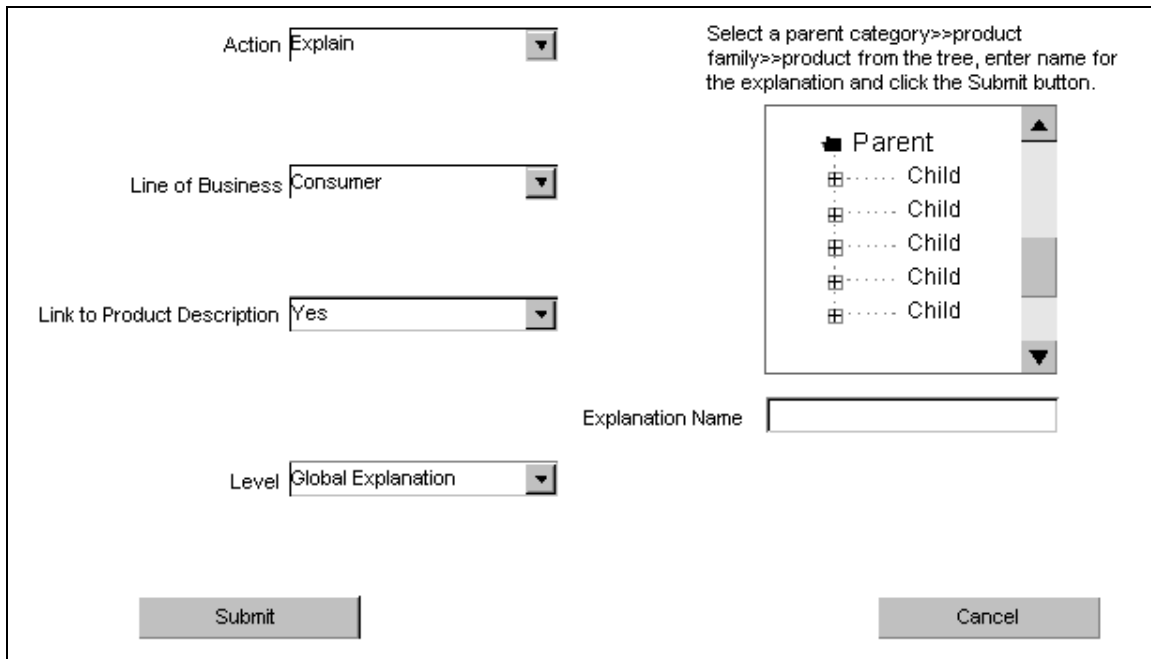
Graphical User Interfaces

See *Figure 24 – Explanation Displayed for “Previous Balance”* on page 45, or see *Figure 25 – General Information Explanations* on page 47, or see *Figure 27 – Billing Section Explanation* on page 50.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *Design Requirements for Explanation of Billing Charges*
- *Line Item Explanation - Consolidated AR General Design*

Figure 28 – Link Explanation to a Product Description



Action: Explain

Line of Business: Consumer

Link to Product Description: Yes

Level: Global Explanation

Explanation Name:

Select a parent category>>product family>>product from the tree, enter name for the explanation and click the Submit button.

- Parent
- Child
- Child
- Child
- Child
- Child

Submit Cancel

5.4 Controlling Explanation Display Use Case

A customer can choose to see the Line Item Explanation icons (indicating the types of explanations) or can remove these icons from the bill display.

#7 toggling the explanation displays on/off

When the customer's bill is first displayed, all icons used to access line item and billing section explanations are displayed. BillView uses two links in the bill section titled "**Tool Box**" to control the display of explanation icons:

- An "*Explanation On/Off*" link in the **Tool Box** section removes the explanation icon enhancements from the bill. Clicking this link a second time instructs BillView to re-display the line item explanations on the screen.
- A "*More Info On/Off*" link in the **Tool Box** section removes the billing section (More Info) enhancements from the bill. Clicking this link a second time instructs BillView to re-display the bill section explanations on the screen.

This preference is *session based*, so for this software release the explanations will display the next time the user logs-on to Verizon.

Business Requirements

#2.03 *"The system shall provide the ability to exclude an explanation for an entity/charge."*

Note: There is not a specific business requirement to toggle the explanations on and off for the entire bill.

Actors/Roles

- Registered residential customer
- Registered general business customer

Intent or Actor Purpose

The customer wants to remove the explanation icons from the bill or has previously turned-off the display and now wishes to re-display the line item or Section Help indicators.

Relationship to Other Use Case(s)

Specializes: #1 searching for a bill explanation

Preconditions

- #1 searching for a bill explanation
- The CMS Production systems are online and loaded with the most current explanation content.
- When a user logs-on, the initial BillView display shows the explanation indicators by default.

Table 12 – Basic Course of Events: #7 toggling the explanation icon display on/off

User Action	LIE-CMS System Action
1. Actor clicks the Explanation On/Off link.	
	2. The line item icons are removed from the BillView display in Figure 29.
3. Actor clicks the More Info On/Off link.	
	4. The Billing Section explanation links are removed from Figure 30.
5. Actor clicks the Explanation On/Off link.	
	6. The line item icons are restored on the BillView display.
7. Actor clicks the More Info On/Off link.	
	8. The line item icons are restored on the BillView display.

Post Conditions

- BillView redisplay the customer's bill with or without explanation icons.
The action is session-based and the icon display state *is not permanently* recorded.

Related Business Rules

None

Graphical User Interfaces

See Figure 26, Figure 29, and Figure 30.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 29 – Bill with Line Item Explanation Icons Removed

The screenshot displays a Verizon bill summary page. At the top, there is a navigation bar with links for 'Products & Services', 'Customer Support', 'About Verizon', and 'My Account'. Below this, there are utility links: 'Sign out', 'Directory', 'My order', and 'Contact us'. The main heading is 'Bill Summary'. On the left, there is a 'I Want To...' menu with options like 'View my account', 'Pay my bill', and 'Payment Arrangement'. The account information section shows the name 'Shaygan R Hernandez', address 'Apt. 38460 East End Ave, New York NY 10028-7808', and phone number '212 734-3355'. The bill date is 'Jun 07 2003'. There are links for 'Important Messages', 'Download Bills', 'Print Current Bill', 'Print Current Page', and 'User Preferences'. The 'Account Summary' table shows a previous balance of 81.76, a payment received of 81.76, and a current balance of 0.00. The 'New Charges' section lists 'Verizon Basic Local Services' (14.86), 'Verizon Optional Services' (76.36), and 'All Other Charges' (23.89), totaling 115.14. A second 'New Charges' section lists 'Verizon' (91.21), 'Verizon Long Distance' (96.02), and 'Verizon Online' (29.95). A disclaimer states: 'PLEASE DO NOT PAY THIS BILL. Total Amount Due will be deducted from your credit card automatically on 7-02-03'.

Figure 30 – Bill with Billing Section Explanation Icons Removed

The screenshot shows the Verizon Bill Summary page. At the top, there is a navigation bar with 'verizon' logo and links for 'Products & Services', 'Customer Support', 'About Verizon', and 'My Account'. Below this is a secondary navigation bar with 'Sign out', 'Directory', 'My order', and 'Contact us'. The main heading is 'Bill Summary'. On the left, there is a sidebar with 'I Want To...' and various account management links. The main content area includes account information for Shaygan Kheradpr, account number #2127343355199, and a 'Billing Terms' link. It shows the bill date as Jun 07 2003 and an 'Enhanced! pay' button. There are links for 'Important Messages', 'Download Bills', 'Print Current Bill', 'Print Current Page', and 'User Preferences'. The 'Account Summary' table shows a previous balance of 81.76, a payment received of 81.76, and a current bill period of June 7, 2003, with a balance of 0.00. The 'New Charges' table lists Verizon Basic Local Services (14.85), Verizon Optional Services (76.36), and All Other Charges (23.93), totaling 115.14. A note states that the total amount due will be deducted from a credit card on 7-02-03. A second 'New Charges' section explains that the list represents all charges for the month and provides a breakdown: Verizon (91.21), Verizon Long Distance (\$6.02), and Verizon Online (29.95).

7 LIE-CMS Content Writer Use Cases

A Content Writer is one of the LIE-CMS actors that assumes the role of Author, Editor, or Moderator.

7.1 General Precondition for Content Writer Use Cases

Many of the CMS Content use cases require the content writer to perform a set of pre-condition steps during the initial logon to the CMS system. Use Case #2 assigning a billing entity to an explanation describes the initial steps that a content writer goes through before performing the *Content Writer-Explanation Use Cases* (starting on page 64) and the *Content Writer-Question/Answer Set Use Cases* (beginning on page 100).

NOTE

Steps 1-9 serve as a precondition for the first task a Content Writer does with CMS.

Steps 3-5 serve as the precondition for subsequent tasks a Content Writer does with CMS. The login credentials are maintained for each user session or until the user logs out.

CMS has a “**no activity time-out feature**” that is configured for 15 minutes. If the Content Writer does not log-out or does nothing for 15 minutes (900 seconds), CMS automatically logs-out the user.

#2 assigning a billing entity to an explanation

The assigning a billing entity to an explanation use case contains the initial functions necessary for Verizon Content Writers to begin the tasks of adding, editing, approving, declining, and managing explanations found on Verizon bills.

Business Requirements

#5.01 *“The system shall provide a flexible solution to enable identification and updates (additions, deletions, changes) of explanations in a quick and easy manner to support the needs of the business.”*

#5.02 *“The system will have restricted access. A login/password will be required.”*

#5.06 *“The system shall be able to identify the entities/charges on the online bill that are not explained or ignored in order to proactively keep current with the bill.”*

#5.07 *“The system shall provide the ability to retrieve a specific bill from the backend and store it locally in the admin tool so you can work with it's piece parts.”*

Actors/Roles

Content Writer – **Author, Editor, or Moderator**

Intent or Actor Purpose

The content writer uses the Admin tool to locate a specific customer bill in the LIE Pattern Identification Research Database. Once the bill is displayed, the content writer clicks and selects a line item. CMS displays a proprietary notice. After acknowledging the proprietary notice, the Content Writer logs on to CMS and selects the type of action to perform.

Relationship to Other Use Case(s)

This use case is the precondition for all Content Writer use cases found in this section.

Preconditions

- Actor has a valid user ID and password to access the CMS system in the appropriate Verizon production domain.
- CMS, BillView, and the LIE Admin tool applications are online.
- Actor has the URL of the production version of the LIE Admin tool.

Table 13 – Basic Course of Events: #2 assigning a billing entity to an explanation

User Action	LIE-CMS System Action
1. Actor inserts the LIE Admin tool URL address into an Internet Browser.	
	2. The LIE Admin tool displays its home page as shown in Figure 32 on page 60.
3. Actor specifies {Account number, billing system, Admin mode} and clicks Submit.	
	4. BillView and the LIE Admin tool display the selected bill with colored icons that correspond to pattern information stored in the LIE Pattern Identification research database. See Table 1 (page 10) for a quick overview of the colored icons.
5. Actor browses the online bill (Figure 33 on page 61), selects a line item with a gray ? icon, and clicks on the icon to access CMS.	
	6. The One Retail CMS system displays its initial login page as illustrated in Figure 34 on page 61.
7. Actor clicks the OK button for the Proprietary Notice.	
8. Actor specifies {Domain, User Name, Password} and clicks the Submit button.	
	9. CMS authenticates the actor and displays the Action selection screen in Figure 35 on page 62.
10. Actor selects the appropriate general action.	
Alternative Path for Step (6): CMS not operationally available (no explanation)	
	6a-1. CMS is unable to respond to the LIE Admin tool.
	6a-2. LIE Admin tool identifies the error and notifies the content writer that CMS is not currently available.
	6a-3. Return to main flow.
Alternative Path for Step (9): CMS Rejects User Login	
	9a-1. CMS redisplay the Proprietary Notice if the Domain, User name, or Password is incorrect.
9a-2. Actor clicks OK for the Proprietary Notice.	
9a-3. Actor again specifies {Domain, User Name, Password} and clicks the Submit button.	

Post Conditions

Content Writer can choose the appropriate action (Explain, Ignore, or Associate) required for this explanation.

Related Business Rules

None

Graphical User Interfaces

See Figure 32 through Figure 35, beginning on page 60.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 32 – LIE Admin Tool Home Page



Figure 33 – Bill Displayed by LIE Admin Tool

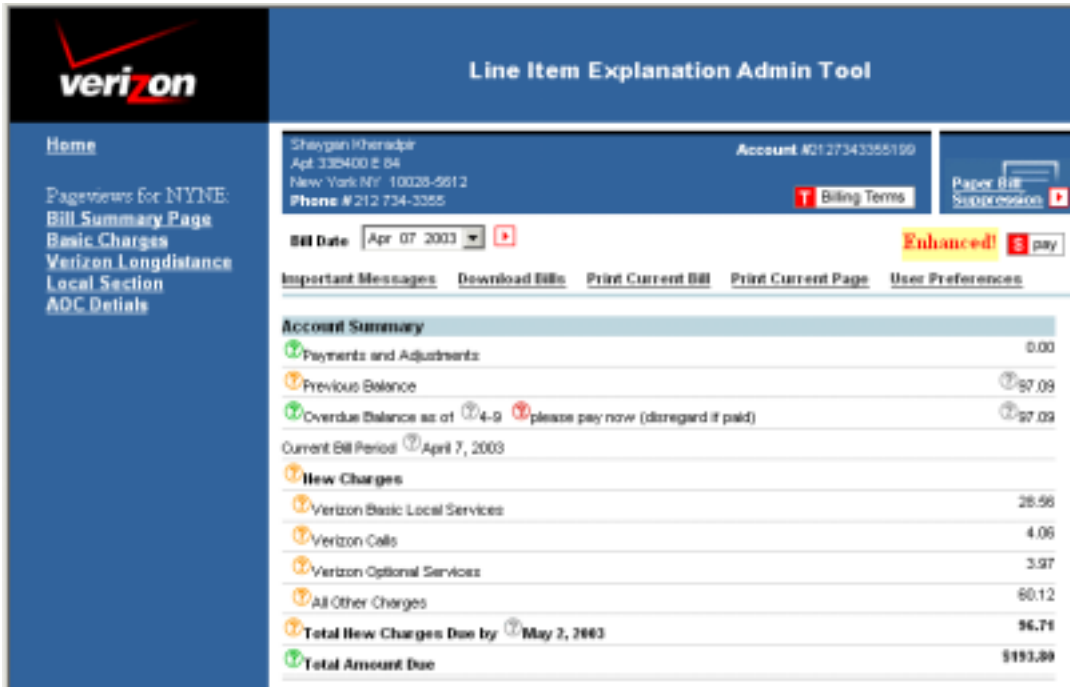
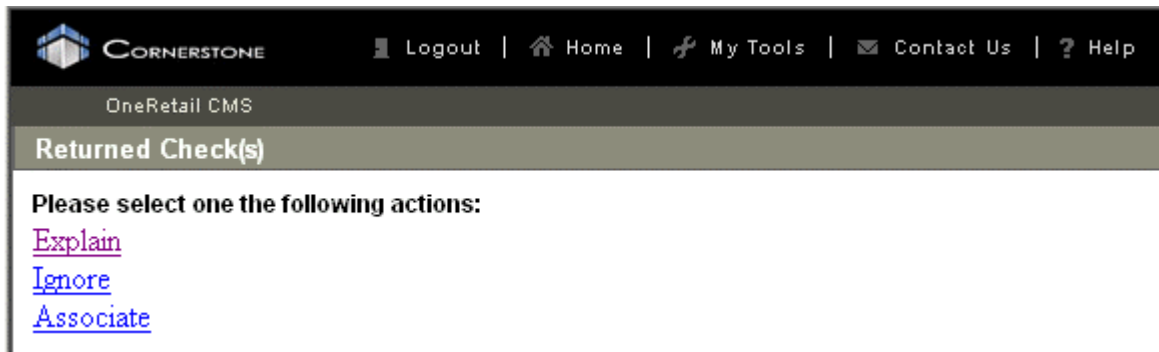


Figure 34 – One Retail CMS Login Page



Figure 35 – Choose a CMS Action



7.2 Overview - Content Writer Use Cases

The Content Writer Use Cases describe the functionality used to create, organize, and destroy explanations within the Line Item Identification project. This functionality manipulates:

- Line item explanations
- Question and answer sets used to populate General Information and billing section explanations
- Interactive Reports from the LIE Admin software

7.2.1 Content Writer - Explanation Use Cases

Involves the Line Item Explanations linked to billing entities

- **#8** adding a new explanation
- **#9** editing an explanation
- **#10** linking a product explanation to line item explanation
- **#11** ignoring a line item
- **#12** duplicating an explanation
(associating an explanation to another explanation)
- **#14** displaying explanation in customer view
- **#15** displaying linked explanations
- **#17** deleting an explanation
- **#20** moving explanation to a new scope
- **#21** approving/declining an explanation
- **#22** publishing an explanation to production
- **#24** approving/declining multiple explanations
- **#25** adding writer's comments to an explanation

7.2.2 Content Writer – Question/Answer Set Use Cases

Involves Question/Answer Sets for General Information and Billing Section Help

- #26 adding question/answer set
- #27 editing question/answer set
- #28 displaying question/answer set in customer view
- #29 deleting a question/answer set
- #30 approving/declining a question/answer set
- #31 publishing question/answer set to production
- #33 approving/declining multiple question/answer sets
- #34 adding writer comments to a question/answer set
- #36 import a single bill for new line items

7.2.3 Content Writer – Reporting Use Cases

Involves interactive reports generated from the LIE Admin and CMS software

- #35 displaying CMS repository state statistics
- #37 displaying a jurisdiction's unexplained line items
 - By market
 - By number of occurrences
- #38 displaying explanation (question/answer set) revision history
- #39 displaying explanation (question/answer set) revisions by date
- #23 displaying list of explanations
- #32 displaying list of question/answer sets

(Other reports will be developed as content workflows dictates the need)

7.3 Explanation Use Cases

These use cases govern how the content writers create, promote, authorize, and manage explanations associated with a line item on the bills.

- **#2** assigning a billing entity to an explanation
(Precondition for all Content Writer Use Cases)
- **#8** adding a new explanation
- **#9** editing an explanation
- **#10** linking a product explanation to line item explanation
- **#11** ignoring a line item
- **#12** duplicating an explanation
(associating a line item explanation with another explanation)
- **#14** displaying explanation in customer view
- **#15** displaying linked explanations
- **#17** deleting an explanation
- **#18** deleting all associated explanations
- **#20** moving explanation to a new scope
- **#21** approving/declining an explanation
- **#22** publishing an explanation to production
- **#24** approving/declining multiple explanations
- **#25** adding writer's comments to an explanation
- **#36** import a single bill for new line items

#8 adding an explanation to a billing entity

This use case encapsulates the entire purpose of the Line Item Identification project.

Business Requirements

#1.05 *“The system must be able to provide explanations at one of the following levels: global, LOB, jurisdiction (that is, NY, NE, eTrak, etc.), state, NPA, and NPA NXX.”*

#5.01 *“The system shall provide a flexible solution to enable identification and updates (additions, deletions, changes) of explanations in a quick and easy manner to support the needs of the business.”*

#5.04 *“The system shall provide context sensitive identifications and context sensitive explanations.”*

Actors/Roles

Content Writer - **Author**

Intent or Actor Purpose

Having selected a billing entity, the author uses the CMS screens to develop an explanation that explains this billing entity. As part of this process, the author assigns a scope (see *Explanation Scope* on page 19) or level for this explanation. The explanation level determines how narrow or broad the application of this explanation to Verizon billing statements.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The explanation links display as a gray icon (unexplained) in the LIE Admin tool, indicating it *does not exist* in the CMS repository.

Table 14 – Basic Course of Events: #8 adding an explanation to a billing entity

User Action	LIE-CMS System Action
1. Actor selects Explain on the CMS Select Action page (Figure 35 on page 62)	
	2. CMS displays the Create New Explanation Page.
3. Actor selects {LOB, Level}.	
4. Actor types a Display Name and clicks the Submit button.	
	5. CMS displays the Edit Line Item Explanation Page.
6. Actor types an explanation that addresses the Display Name line item from the bill.	
7. Actor selects {Save, Save and Exit, or Exit} from the page.	
8a.	Clicking Save and Exit displays a menu of other explanation functionality. (See Figure 39 on page 67.)
8b.	Clicking Save to keep the Edit Line Item Explanation Page displayed.
9. Click the close button to remove the CMS window	
Step (7): Actor wishes to Cancel the Save operation	
7a-1.	Clicking Exit displays a warning that unsaved changes will be lost.
7a-2. Click OK to display the menu.	

Post Conditions

- Content writer saves the explanation just created *or* decides to cancel the operation and exits the explanation page.
- CMS displays the Figure 39 that provides a list of other CMS functionality available to the Content Writer.

Related Business Rules

None

Graphical User Interfaces

See Figure 36 through Figure 39, beginning on page 66.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 36 – Create New Explanation Page



Figure 37 – Edit Line Item Explanation Page

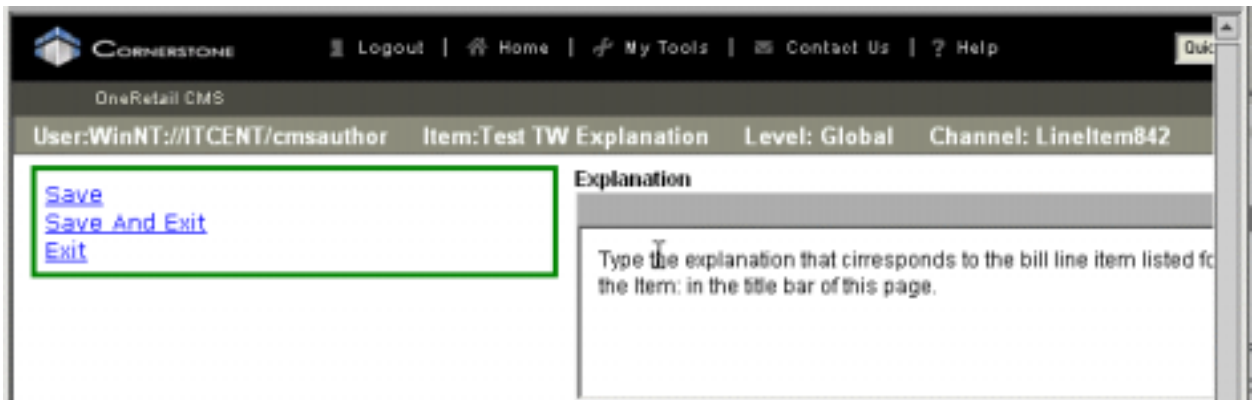


Figure 38 – Confirmation to Cancel Explanation Changes

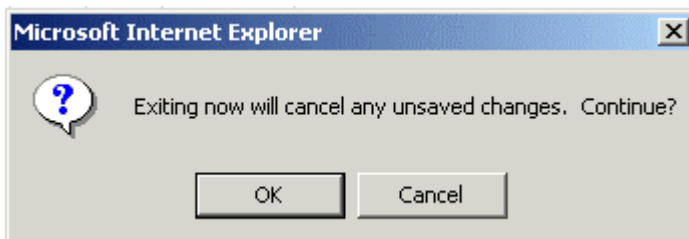
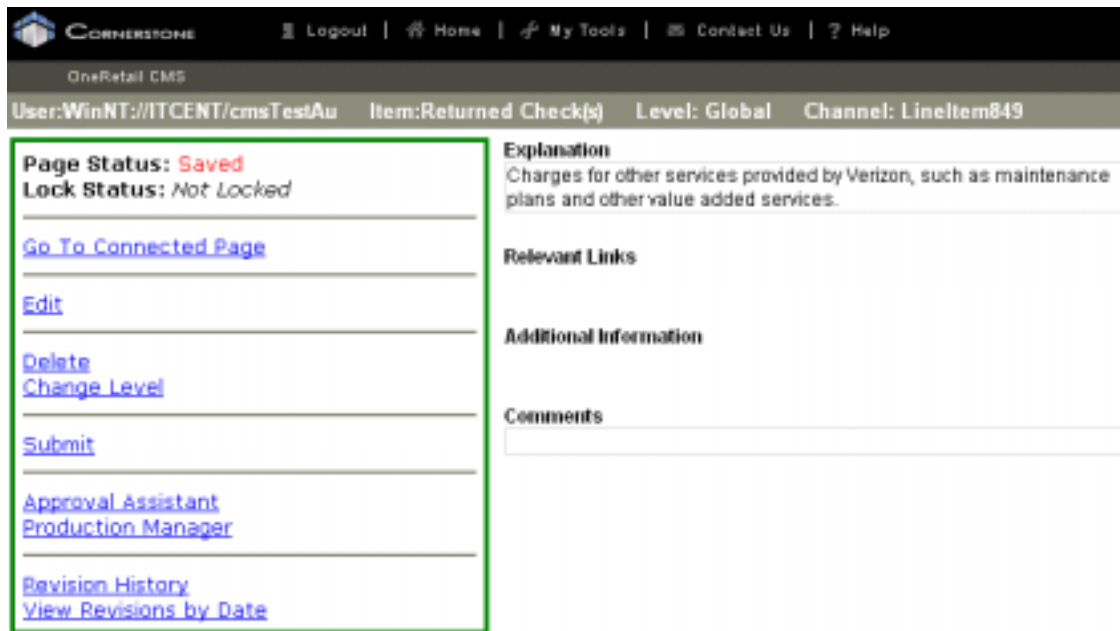


Figure 39 – CMS Explanation Functions



#9 editing an explanation

To edit a billing entity's existing explanation, you go through the similar steps as the use case #8 adding an explanation to a billing entity. The only difference is that Figure 36 and Figure 37 have existing information for the LOB, Level, Display Name, and Explanation fields.

Business Requirements

#5.01 *"The system shall provide a flexible solution to enable identification and updates (additions, deletions, changes) of explanations in a quick and easy manner to support the needs of the business."*

#5.04 *"The system shall provide context sensitive identifications and context sensitive explanations."*

Actors/Roles

Actor is a Content Writer in the role of an **Author** or **Editor**.

Intent or Actor Purpose

Having selected a billing entity with an existing explanation, the author uses the CMS screens to change an explanation that explains this billing entity.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Equivalent: #8 adding an explanation to a billing entity

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The explanation link displays as a yellow or green icon in the LIE Admin tool, indicating it exists in the CMS repository.

Table 15 – Basic Course of Events: #9 editing an explanation

User Action	LIE-CMS System Action
1. Actor selects <u>Explain</u> on the CMS Select Action page (Figure 35 on page 62)	
	2. CMS displays functionalities shown in Figure 39 on page 67.
3. Actor clicks the <u>Edit</u> link.	
	4. Edit Line Item Explanation Page displays as illustrated in Figure 40 on page 69.
5. Actor changes the explanation that addresses the Display Name line item from the bill.	
6. Actor selects {Save, Save and Exit, or Exit} from the page.	
7a.	Clicking Save and Exit displays a menu of other explanation functionality. (See Figure 39 on page 67.)
7b.	Clicking Save to keep the Edit Line Item Explanation Page displayed.
8. Click the close button to remove the CMS window	
Step (7): Actor wishes to Cancel the Save operation	
7c-1.	Click Exit displays a warning that unsaved changes will be lost.
7c-2. Click OK to display the menu.	

Post Conditions

- Content writer saves the explanation changes or decides to cancel the operation and the explanation remains the same.
- CMS displays the Figure 39 that provides a list of other CMS functionality available to the Content Writer.

Related Business Rules

The explanation must exist in the CMS repository and be in the Saved, Awaiting Editor Approval, or Published state.

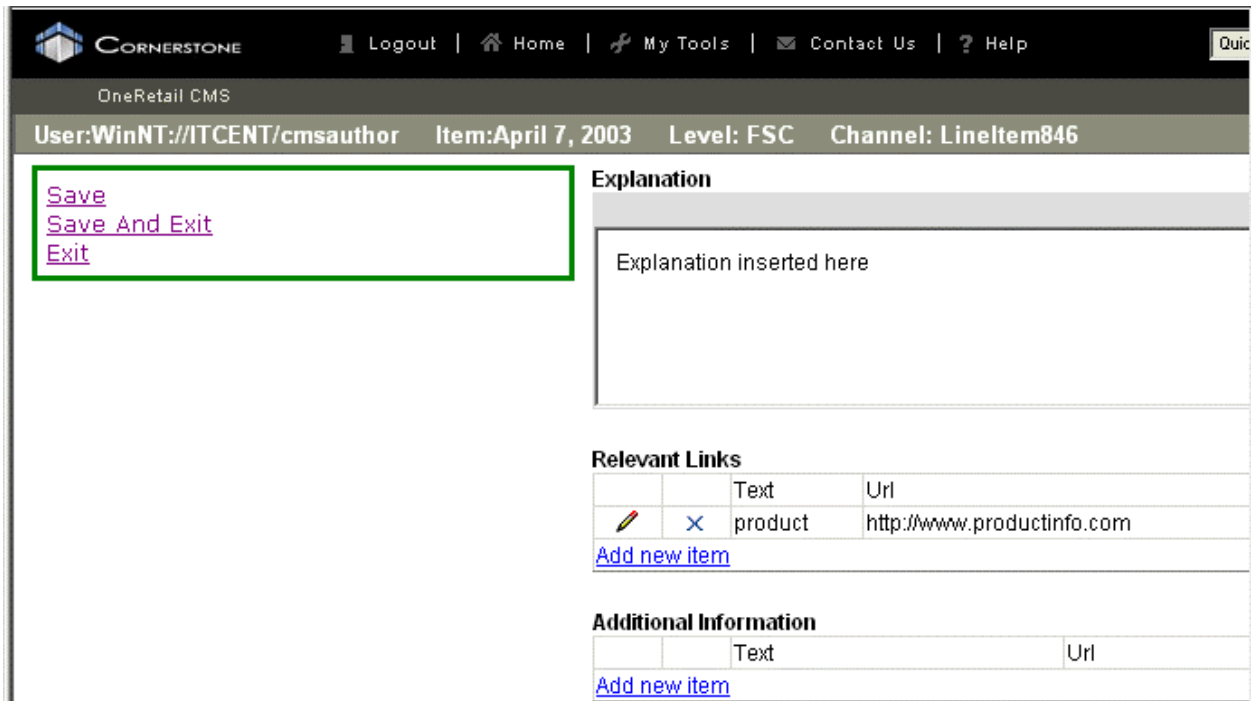
Graphical User Interfaces

See Figure 36 through Figure 39, beginning on page 66.
See Figure 40 for actual example of an edited explanation.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 40 – Edit Explanation Page with Product Information Link



#10 linking a product explanation to line item explanation

When a content writer is adding or editing an explanation, they have the opportunity to link a product description or other information (Relevant Links or Additional Information) to the line item explanation.

Business Requirements

#2.04 “The system shall be able to identify and explain an entity as a plan/product/service, when available.”

#2.05 “The system shall provide the ability to use the plans/products/services content in CMS along with explanations provided when chosen to display to the customer.”

#2.07 “The system shall be able to identify and explain the customer's PIC, LPIC when available.”

Actors/Roles

Actor is a Content Writer in the role of an **Author** or **Editor**.

Intent or Actor Purpose

Having selected a billing entity with an existing explanation, the author uses the CMS screens to associate **Relevant Links** or **Additional Information** to the selected explanation.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation




Extends: #9 editing an explanation

Line Item Explanation-CMS Use Cases #10 linking a product explanation to line item explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The explanation link displays as a yellow or green icon in the LIE Admin tool, indicating it exists in the CMS repository.

Table 16 – Basic Course of Events: #10 linking a product explanation to line item explanation

User Action	LIE-CMS System Action
1. Actor selects Explain on the CMS Select Action page (Figure 35 on page 62)	
	2. CMS displays functionalities shown in Figure 39 on page 67.
3. Actor clicks the Edit link.	
	4. Edit Line Item Explanation Page displays as illustrated in Figure 40 on page 69.
5. Actor clicks Add New Item link under the Relevant Links or Additional Information.	
	6. CMS displays new text fields to name the product link and provide a URL as shown in Figure 42 on page 72.
7. Actor types {Text, URL} to identify the link on the explanation pop-up display window and a URL to take the customer to the appropriate page.	
8a. Actor clicks   to save this link to the explanation.	
	9a. CMS redisplayes the page with the associated link and without the edit fields.
8b. Actor clicks  to avoid adding the item to this explanation.	
	9b. CMS redisplayes the page without the edit fields.
10. Actor selects {Save, Save and Exit, or Exit} from the page.	
	11a. Clicking Save and Exit displays a menu of other explanation functionality. (See Figure 39 on page 67.)
	11b. Clicking Save to keep the Edit Line Item Explanation Page displayed.
12. Click the close button to remove the CMS window	
Step (11): Actor wishes to Cancel changes made to the explanation	
	11c-1. Click Exit displays a warning that unsaved changes will be lost.
11c-2. Click OK to display the menu.	

Post Conditions

- Content writer saves the explanation with the product information or decides to not have any *Relevant Links* or *Additional Information* for this explanation.
- CMS displays the Figure 39 that provides a list of other CMS functionality available to the Content Writer.

Line Item Explanation-CMS Use Cases #10 linking a product explanation to line item explanation

Related Business Rules

- The explanation must exist in the CMS repository with a Saved, Awaiting Editor Approval, or Published state.
- The added URL should display a valid HTML page. If CMS does not automatically test this link, the link should be tested using an Internet Browser.

Graphical User Interfaces

See Figure 41 and Figure 42.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

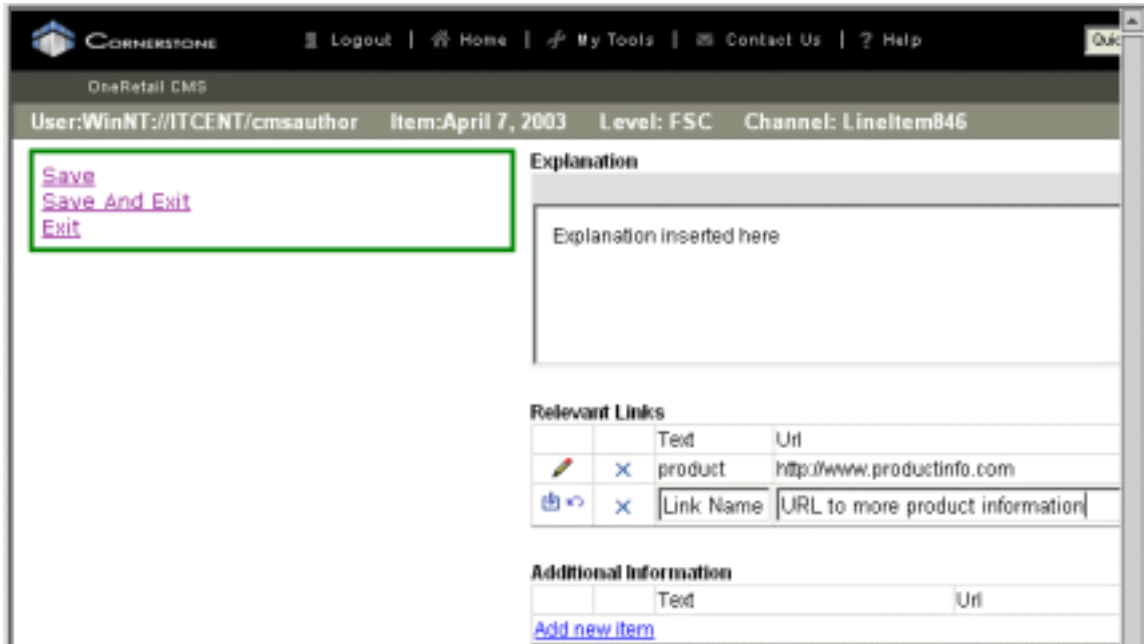
Figure 41 – Linking Product Information to an Explanation

The screenshot shows the OneRetail CMS interface. At the top, there is a navigation bar with 'Logout', 'Home', 'My Tools', 'Contact Us', and 'Help'. Below this, the user information is displayed: 'User: WinNT://ITCENT/cmsauthor', 'Item: April 7, 2003', 'Level: FSC', and 'Channel: LineItem846'. The main content area is divided into two sections. On the left, there is a box containing three buttons: 'Save', 'Save And Exit', and 'Exit', which are highlighted with a green border. On the right, there is an 'Explanation' section with a text area containing the text 'Explanation inserted here'. Below this, there are two sections: 'Relevant Links' and 'Additional Information'. Each section contains a table with columns for 'Text' and 'Url'. The 'Relevant Links' table has one row with 'product' and 'http://www.productinfo.com'. The 'Additional Information' table is empty. Both tables have an 'Add new item' button below them.

Text	Url
product	http://www.productinfo.com

Text	Url
------	-----

Figure 42 – Adding a New Link



#11 ignoring a line item

The Content Writer decides that this line item has no significance to the user or its explanation may change greatly based upon the context of the bill line item.

Business Requirement

#2.03 *“The system shall provide the ability to exclude an explanation for an entity/charge.”*

Actors/Roles

Actor is a Content Writer in the role of an **Author, Moderator, or Editor.**

Intent or Actor Purpose

Flag a line item to not display any explanation for the customer.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Similar: #22 publishing an explanation to production

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production system are online and loaded with current production content.
- The explanation link displays as a yellow or green icon in the LIE Admin tool, indicating it exists in the CMS repository.

Table 17 – Basic Course of Events: #11 Ignoring a line item

User Action	LIE-CMS System Action
1. Actor selects a line item in a bill.	
	2. CMS displays the list of actions available, as shown in Figure 43.
3. Actor clicks the Ignore link.	
	4. CMS displays the Ignore Pattern confirmation window. See Figure 44.
5. Actor clicks the <u>Close this Window</u> link.	
	6. CMS closes the window and LIE Admin tool window remains.

Post Conditions

- The line item is ignored and should display a red icon in the LIE Admin tool and display no explanation icon beside the pattern text when the customer views the billing statement.

Related Business Rules

None

Graphical User Interfaces

See Figure 43 and Figure 44.

Related Documents

- Explanation of Charges on the Bill – BRD – June Release – v1.02*
- CMS Line Item Explanation General Design*
- Line Item Explanation - Consolidated AR General Design*

Figure 43 – Ignore a Line Item – List of Actions

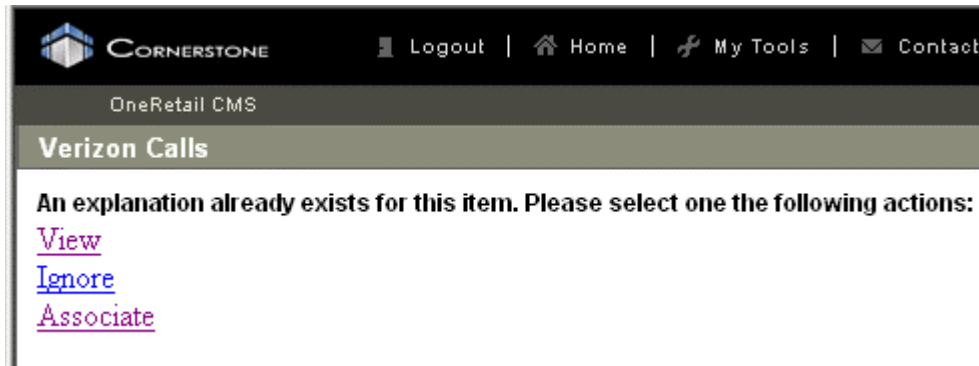
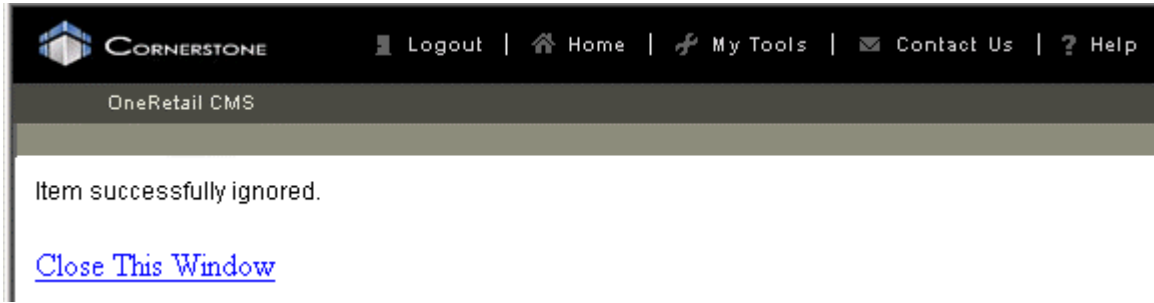


Figure 44 – Ignore Confirmation



#12 associating an explanation with another explanation

This functionality permits content writers to re-use existing explanations for similar bill contexts and help maintain consistency across the CMS repository.

This CMS functionality helps CMS authors:

- To minimize rewriting explanations which are appropriate for similar contexts.
- Reuse explanations (by association) within the Line Item Explanation system.

Business Requirements

#2.04 *“The system shall be able to identify and explain an entity as a plan/product/service, when available.”*

Actors/Roles

Actor is a Content Writer in the role of an **Author** or **Editor**.

Intent or Actor Purpose

Actor wishes to copy (duplicate) an existing explanation to a billing line item explanation.. The author selects the billing entity using the LIE Admin tool and chooses to create an “Association” between the Parent explanation and another explanation.

When presented with a list of explanations that the content writer can associate (dependent upon the scope of the parent explanation) with the Parent explanation, a selection is made. This association (copied explanation) is saved in the CMS repository.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Similar: #9 editing an explanation (for existing explanations)

Similar: #8 adding a new explanation (for non-existent explanations)


Equivalent: #10 linking a product explanation to line item explanation

Line Item Explanation-CMS Use Cases #12 associating an explanation with another explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The explanation link displays as a yellow or green icon in the LIE Admin tool, indicating it exists in the CMS repository.

Table 18 – Basic Course of Events: #12 associating an explanation to another explanation

User Action	LIE-CMS System Action
1. Actor clicks the desired line item on the bill.	
	2. CMS displays a confirmation that the explanation exists and displays the dialog window providing the functions you can perform with this explanation (Figure 43).
3. Click Associate.	
	4. CMS displays the dialog (Figure 45) to let the content write see a list of candidate explanations to associate with the explanation selected in step #1.
5. [Optional] Actor can change the Display Name of the parent explanation.	
6. Actor selects {LOB, Level} and clicks Show Associations. Level of Business is Consumer or General Business. Level is the scope of candidate explanations to display for the actor.	
	7. CMS displays a list of candidate explanations (potential child explanations to associate with the parent explanation chosen in step#1).
8. Actor clicks the Select link next to the child explanation to associate.	
	9. CMS displays a dialog to confirm the association between the parent explanation (white text) and the child explanation (dark text).
10. Actor clicks Submit button.	
	11. CMS displays the parent explanation window shown in Figure 48 on page 78.
12. Actor clicks [Save Save and Exit] link.	
	13. The parent explanation is saved and the text from the selected explanation now overrides any existing text in the parent explanation.
	14. CMS displays the explanation functionality window. (See Figure 49.)
Alternative Path for Step (8, 10, or 12): Actor cancels request to link explanations.	
8a-1. Click the Window close control  to cancel the operation.	
	8a-2. CMS window closes and the LIE Admin tool window remains displayed.
Alternative Path for Step (12): Actor cancels request to save explanation changes.	
12a-1. Click the Exit link to cancel the operation.	
	12a-2. CMS window closes and the LIE Admin tool window remains displayed.

Post Conditions

- Content writers can now display the explanation links using use case #15 displaying linked explanations to show the linked child relationships.
- **WARNING:** The explanation from the linked explanation is copied into the parent explanation. Any existing explanation text in the parent is *replaced*. (See #16 duplicating an explanation use case on page 85).

Related Business Rules

The list of explanations from which the content writer can choose, must each have an explanation scope that is more or equally restrictive than the parent explanation. That is a parent explanation having a scope of State, must choose from other explanations that have a scope of State, NPA, or NPA/NXX combinations. (See *Figure 46 – List Possible Explanations to Associate* on page 77 for an example of explanations that are association candidates.)

Graphical User Interfaces

See Figure 43 and Figure 45 through Figure 49.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 45 – Select Associate Explanation Scope Level

The screenshot shows a web application interface for 'OneRetail CMS'. At the top, there is a navigation bar with the 'CORNERSTONE' logo and links for 'Logout', 'Home', 'My Tools', 'Contact Us', and 'Help'. Below the navigation bar, the page title is 'OneRetail CMS' and the main heading is 'TTY-TDD'. The form contains three fields: 'LOB' with a dropdown menu set to 'Consumer', 'Level' with a dropdown menu set to 'FSC', and 'Display Name' with a text input field containing 'TTY-TDD'. A green button labeled 'Show Associations' is positioned below the form fields.

Figure 46 – List Possible Explanations to Associate

Content	Lob	Fsc	Content	LineItem	State	Qty	Box	
Local Package	Consumer 4		DETAILSSERVICE_RECORD_INPOST_INVENTORY_BY_LINES	SR_INV_FTR_TABLE_ROWDESC	MD	410	233	Select
Verizon Optional Services	Consumer 3		DETAILSINC_DTL_SECTIONBAOS_SECTION	BAOS_HEADERBAOS_HEADER_TEXT	NY	0	0	Select
Total Amount Due	Consumer 3		DETAILSCHARGES_SUMMARY	TOT_AMT_DUE_DET	NY	0	0	Select
Balance as of	Consumer 3		DETAILSIACCOUNT_SUMMARY	BAL_DET		0	0	Select
Verizon Basic Local Services	Consumer 3		DETAILSINC_DTL_SECTIONBABL_SECTION	BABL_HEADERBABL_HEADER_TEXT	NY	0	0	Select
Revised Final Charges	Consumer 3		DETAILSCHARGES_SUMMARY	CHARGES_SUM_DET	NY	718	410	Select
Monthly Rates	Consumer 4		DETAILSMONTHLY_CHARGESBASIC_SERVICE	TOT	MD	410	233	Select
Service Request Number	Consumer 4		DETAILSADDITIONS_AND_CHANGESACTIVITY_ONSERVICE_	HDR	MD	410	573	Select
Package Added to								

Figure 47 – Association Confirmation

CORNERSTONE | Logout | Home | My Tools |
 OneRetail CMS
 TTY-TDD
 You are associating with Service Request Number.
 Submit

Figure 48 – Parent Explanation Altered

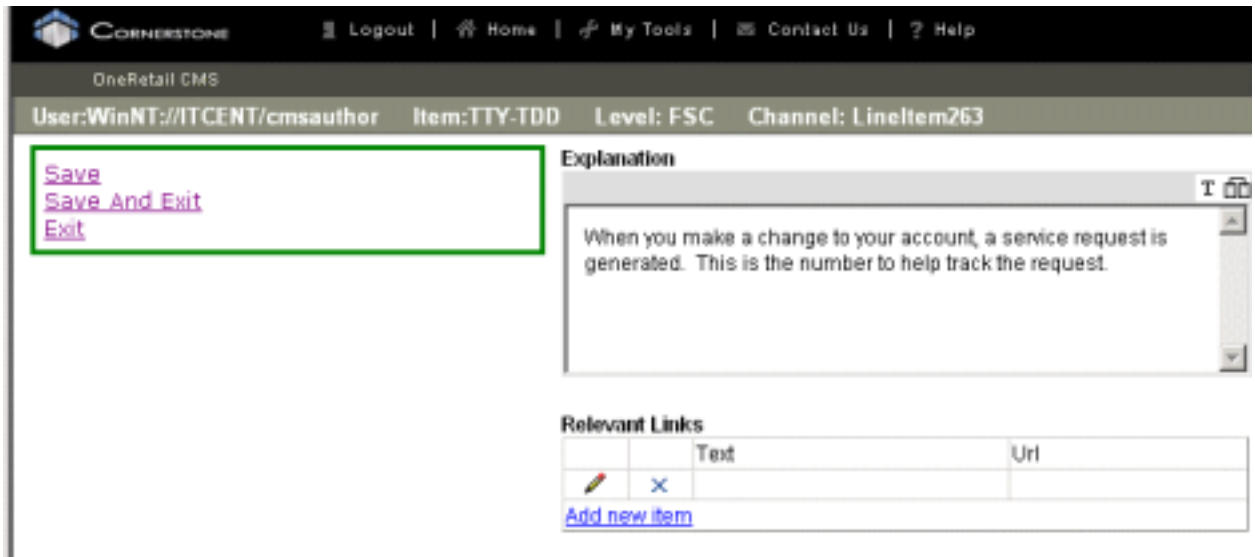


Figure 49 – Parent Explanation Saved

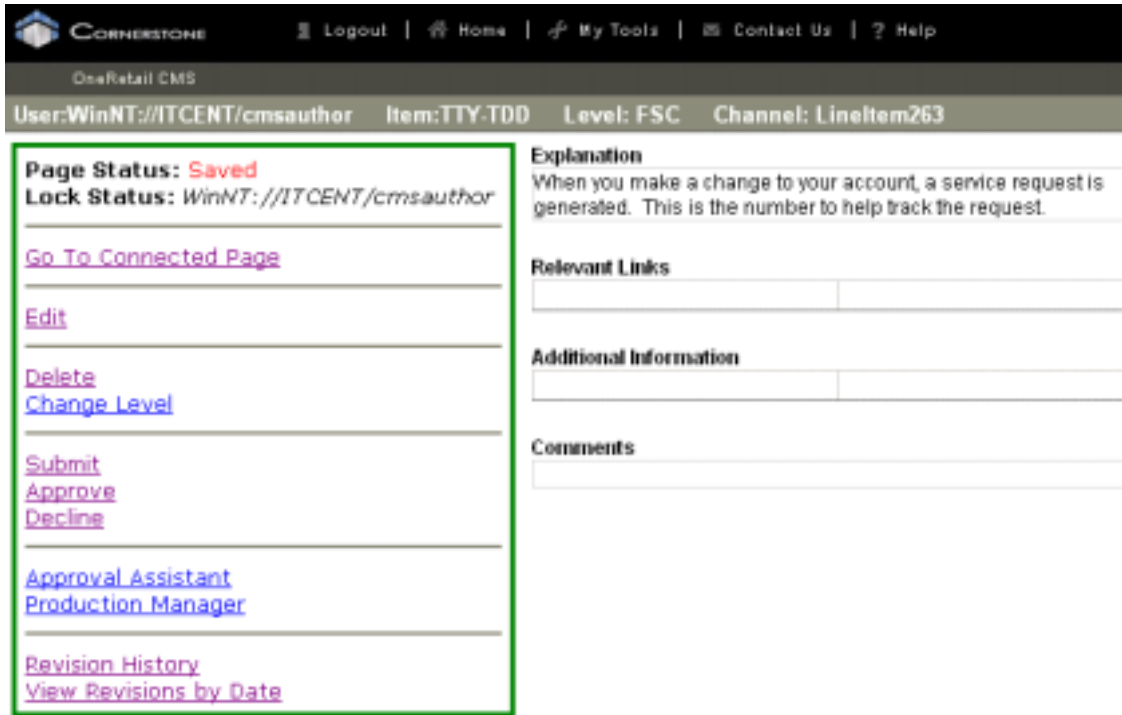


Table 19: CMS Explanation Menu Matched to LIE-CMS Use Cases

Menu Link	Use Case
Go To Connected Page	#15 displaying linked explanation
Edit	#9 editing an explanation
Delete	#17 deleting an explanation
Change Level	#20 moving an explanation to a new scope
Submit	#21 approving/declining an explanation
Approve	#21 approving/declining an explanation #22 publishing an explanation to production
Decline	#21 approving/declining an explanation
Approval Assistant	#24 approving/declining multiple explanations
Production Manager	#23 displaying list of explanations
Revision History	#38 displaying explanation revision history
View Revisions by Date	#39 displaying explanation revisions by date

#14 displaying explanation in customer view

Content Writer displays the pop-up window from the LIE Admin tool (BillView mode) that shows what a customer will see for this line item explanation.

Business Requirements

#1.04 *“The system shall adhere to standard Verizon.com page elements for verizon.com pages.”*

#3.01 *“The system shall be able to display the explanations in a manner that would be intuitive to the customer; that is, icons, links, pop-ups, etc.”*

Actors/Roles

Actor is a Content Writer in the role of an **Author, Moderator, or Editor.**

Intent or Actor Purpose

The Content Writer uses the LIE Admin tool to display how the explanation will appear to the customer using the BillView system.

Relationship to Other Use Case(s)

None

Preconditions

- CMS and LIE Production systems are online and loaded with current production content.
- CMS and the LIE Admin tool have synchronized their databases
- The desired explanation links displays as green icons in the LIE Admin tool (blue icon for customer), indicating it exists in the CMS repository. This is for the *Admin* mode of the LIE Admin tool.

Table 20 – Basic Course of Events: #14 displaying explanation in customer view

User Action	LIE-CMS System Action
1. Actor inserts the LIE Admin tool URL address into an Internet Browser.	
	2. The LIE Admin tool displays its home page as shown in Figure 32 on page 60.
3. Actor specifies {Account number, billing system, BillView mode} and clicks Submit.	
	4. The LIE Admin tool displays the account's most recent statement as the customer would see it. The blue icons correspond to explained content that has been approved through CMS.
5. Click a blue icon beside a portion of the bill.	
	6. The LIE Admin tool displays the explanation (plus any additional links) in a window in the upper left-hand portion of the screen. See Figure 50 on page 82.
7. Click the Close button in the explanation window upper right-hand corner.	

User Action	LIE-CMS System Action
Alternative Path for Step (7): Actor clicks one of {related links, feedback response}	
7a-1. Click one of the links listed under [Additional Information Relevant Links].	
	7a-2. An appropriate Verizon.com page displays in the window that corresponds to the selected link.
7a-3. Click the Close button in the explanation window upper right-hand corner.	
	7a-4. CMS window closes and the LIE Admin tool window remains displayed.
7b-1. Click [Yes No] link under Feedback.	
	7b-2. CMS responds with a comment (Thank You).
7b-3. Click the Close button in the explanation window upper right-hand corner.	
	7b-4. CMS window closes and the LIE Admin tool window remains displayed.

Post Conditions

- Content Writer sees an online explanation of a selected line item contained in the bill.
- Content Writer can click on related links and see appropriate pages in the Verizon.com site.

Related Business Rules

None

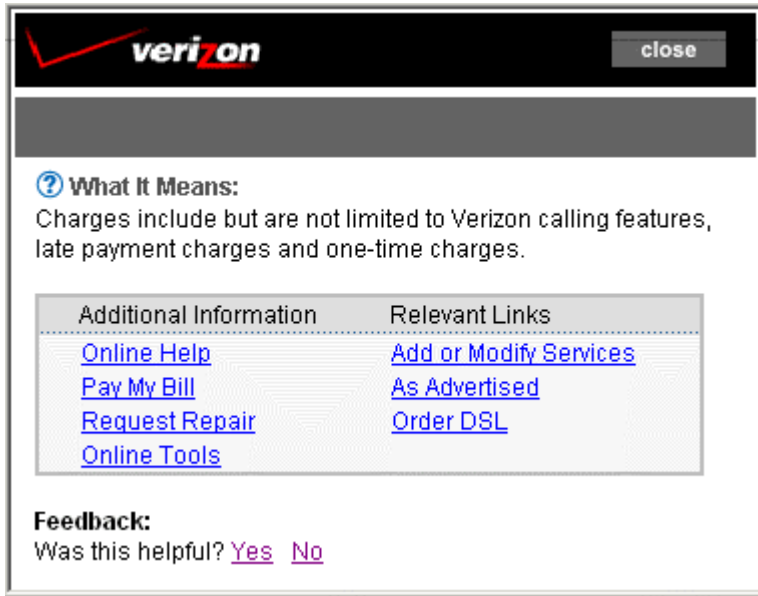
Graphical User Interfaces

See Figure 23 on page 42 and Figure 50 on page 82.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *Line Item Explanation - Consolidated AR General Design*

Figure 50 – Example Explanation in LIE Admin BillView Mode



#15 displaying linked explanations

Business Requirements

#2.04 “The system shall be able to identify and explain an entity as a plan/product/service, when available.”

#2.05 “The system shall provide the ability to use the plans/products/services content in CMS along with explanations provided when chosen to display to the customer.”

Actors/Roles

Actor is a Content Writer in the role of an **Author, Moderator, or Editor.**

Intent or Actor Purpose

The Content Writer wants to display and verify that explanations are linked together (xx) in the manner the Content Writer wants. Usually this involves putting supplementary information in the child

Relationship to Other Use Case(s)



Includes: #2 assigning a billing entity to an explanation

Extends: #12 associating an explanation to another explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The parent explanation link displays as a yellow or green icon in the LIE Admin tool, indicating it exists in the CMS repository.
- The parent and linked explanations have at least one association stored in the CMS repository.

Table 21 – Basic Course of Events: #15 displaying linked explanations

User Action	LIE-CMS System Action
1. Actor clicks the desired line item on the bill.	
	2. CMS displays the explanation functionality window corresponding to the parent explanation. (See Figure 51.)
3. Actor clicks the <u>Go To Connected Page</u> link.	
	4. CMS displays a list of explanations that have been associated with this parent explanation. (See Figure 52.)
5. Actor clicks the  icon to display the parent explanation.	
	6. CMS displays the parent explanation.
7. Click the Window close control  to cancel the operation.	
	8. CMS current page window closes and the explanation functionality window (See Figure 51.) remains on the screen.

Post Conditions

None

Graphical User Interfaces

See Figure 51 and Figure 52.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 51 – View Explanations Associated with Parent

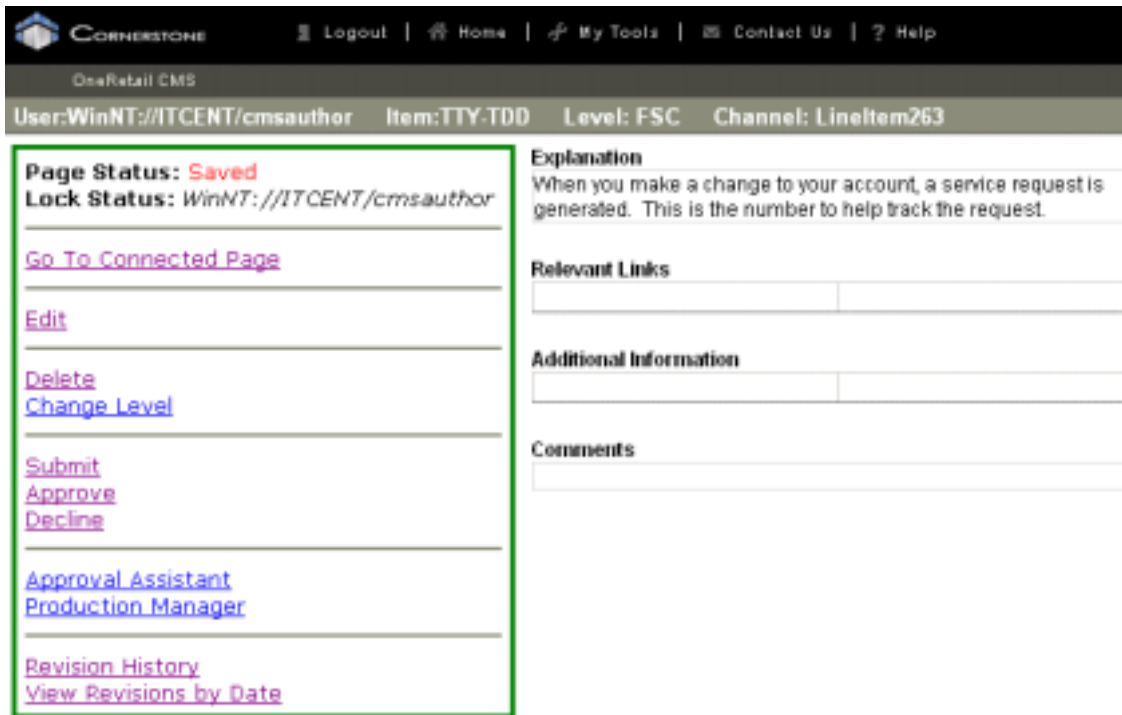


Figure 52 – List of Linked Explanation(s)



Figure 53 – Parent Explanation



#16 duplicating an explanation

This functionality permits content writers to re-use existing explanations for similar bill contexts and help maintain consistency across the CMS repository.

This CMS functionality helps CMS authors:

- To minimize rewriting explanations which are appropriate for similar contexts.
- Reuse explanations (by association) within the Line Item Explanation system.

Business Requirements

#2.04 *“The system shall be able to identify and explain an entity as a plan/product/service, when available.”*

Actors/Roles

Actor is a Content Writer in the role of an **Author** or **Editor**.

Intent or Actor Purpose

Actor wishes to copy (duplicate) an existing explanation to a billing line item explanation.. The author selects the billing entity using the LIE Admin tool and chooses to create an “Association” between the Parent explanation and another explanation.

When presented with a list of explanations that the content writer can associate (dependent upon the scope of the parent explanation) with the Parent explanation, a selection is made. This association (copied explanation) is saved in the CMS repository.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation


Similar: #8 adding a new explanation

Equivalent: #12 associating an explanation with another explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The explanation links display as a gray icon (undefined) in the LIE Admin tool, indicating it **does not** exist in the CMS repository.

Table 22 – Basic Course of Events: #16 duplicating an explanation

User Action	LIE-CMS System Action
1. Actor clicks the desired line item on the bill.	
	2. CMS confirms the explanation does not exist (note the Explain link in <i>Figure 35 – Choose a CMS Action</i> on page 62) and displays the duplication command dialog.
3. Click the <u>Associate</u> link.	
	4. CMS displays the dialog (Figure 45) to let the content writer see a list of candidate explanations to associate with the explanation selected in step #1.
5. [Optional] Actor can change the Display Name of the parent explanation.	
6. Actor selects {LOB, Level} and clicks Show Associations. Level of Business is Consumer or General Business. Level is the scope of candidate explanations to display for the actor.	
	7. CMS displays a list of candidate explanations (potential child explanations to associate with the parent explanation chosen in step#1).
8. Actor clicks the Select link next to the child explanation to associate.	
	9. CMS displays a dialog to confirm the association between the parent explanation (white text) and the child explanation (dark text).
10. Actor clicks Submit button.	
	11. CMS displays the parent explanation window shown in Figure 48 on page 78.
12. Actor clicks [Save Save and Exit] link.	
	13. The parent explanation is saved and the text from the selected explanation now overrides any existing text in the parent explanation.
	14. CMS displays the explanation functionality window. (See Figure 49.)
Alternative Path for Step (8, 10, or 12): Actor cancels request to link explanations.	
8a-1. Click the Window close control  to cancel the operation.	
	8a-2. CMS window closes and the LIE Admin tool window remains displayed.
Alternative Path for Step (12): Actor cancels request to save explanation changes.	
12a-1. Click the Exit link to cancel the operation.	
	12a-2. CMS window closes and the LIE Admin tool window remains displayed.

Post Conditions

- Content writers can display the explanation links using use case #15 displaying linked explanations to show the linked child relationships.
- The explanation from the linked explanation is copied to the duplicated explanation. Any pre-existing explanation text in the parent is *replaced*.

Related Business Rules

The list of explanations from which the content writer can choose, must each have an explanation scope that is more or equally restrictive than the scope chosen for the new, duplicate explanation. If the duplicated explanation must have a scope of State, user must choose from other explanations that have a scope of State, NPA, or NPA/NXX combinations. (See *Figure 46 – List Possible Explanations to Associate* on page 77 for an example of explanations that are association candidates.)

TIP: Because this use case overwrites any existing explanation text for the line item selected, the actor should select a line item that does not have an existing explanation. If explanation text must be preserved during this use case, the actor should copy existing text to a text file and later paste any needed language into the new explanation. (See Figure 48 – Parent Explanation Altered on page 78.)

Graphical User Interfaces

See Figure 43 on page 73 and Figure 45 through Figure 49, beginning on page 76.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

#17 deleting an explanation

Business Requirement

#5.01 *“The system shall provide a flexible solution to enable identification and updates (additions, deletions, changes) of explanations in a quick and easy manner to support the needs of the business.”*

Actors/Roles

Actor is a Content Writer in the role of an **Author** or **Editor**.

Intent or Actor Purpose

A CMS content author needs to remove a line item explanation from the CMS repository and the LIE Production database. When the explanation is deleted, any unexplained patterns that were formerly associated with this explanation must be removed.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The explanation links display as a yellow or green icon in the LIE Admin tool, indicating it exists in the CMS repository.

Table 23 – Basic Course of Events: #17 deleting an explanation

User Action	LIE-CMS System Action
1. Actor clicks the desired line item on the bill.	
	2. CMS displays a confirmation that the explanation exists.
3. Click <u>View</u>.	
	4. CMS displays the explanation functionality options as shown in Figure 55.
5. Click <u>Delete</u>.	
	6. CMS displays the deletion warning (refers to the explanation).
7. Click OK.	
	8. CMS displays the deletion confirmation window.
9. Click <u>Close the Window</u>.	
	10. The CMS OneRetail application closes and the LIE Admin tool. Later the LIE Production database is synchronized with the CMS application and changes are published to the LIE Production database.
Alternative Path for Step (7): User chooses not to delete the explanation	
7a-1. Click Cancel.	
	7a-2. CMS redisplay the functionality options shown.

Post Conditions

- The explanation is deleted from the database from the specified channel and Level of Business.
- Refreshing the Internet cache for the content writer's browser and retrieving the same bill in Admin mode should display an unexplained billing entity. That is to say, the icon should change when the bill is re-displayed. LIE and CMS must synchronize their databases first. If the databases have not synchronized, Figure 58 displays the response when you select this line item in Admin mode with the LIE Admin tool.
- CMS logs the customer's explanation request for reporting by eDesk.

Related Business Rules

System must check for and delete any patterns that once the current explanation is deleted, these line items remain unexplained.

Graphical User Interfaces

See Figure 54 through Figure 58.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 54 – Delete an Explanation – Line Item Selected

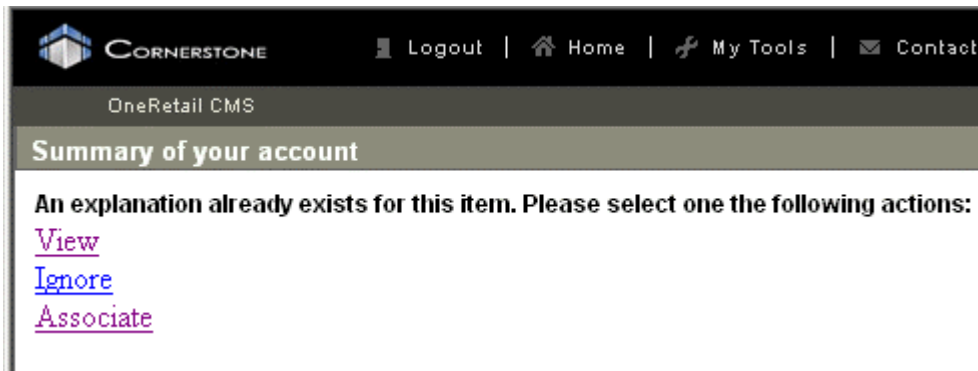


Figure 55 – Existing Explanation Menu Options [CHANGED]

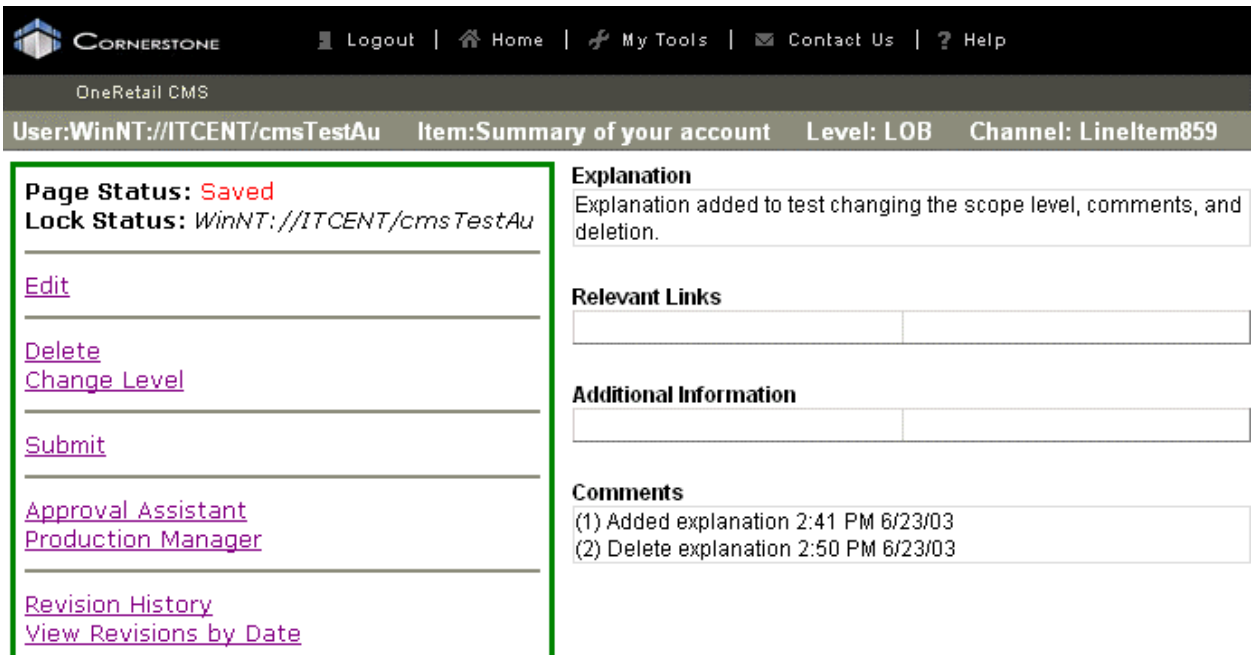


Figure 56 – Deletion Warning

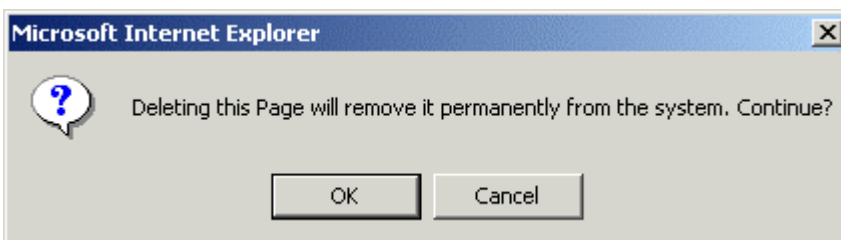


Figure 57 – Explanation Deleted Confirmation

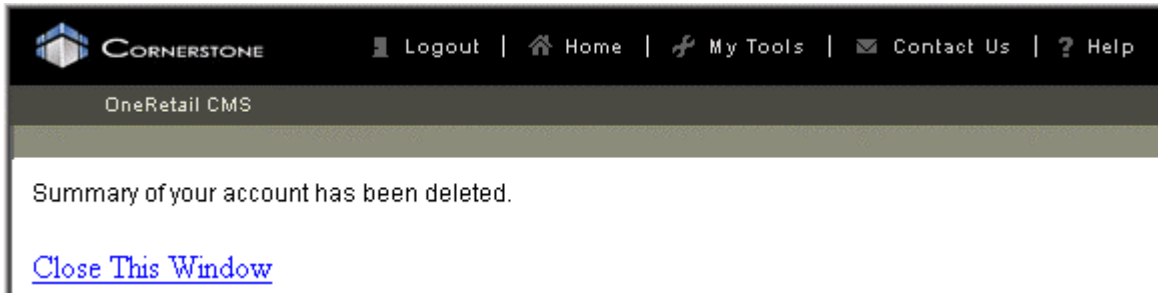
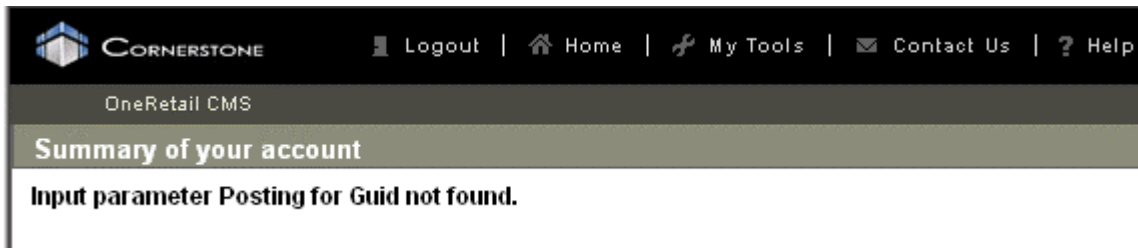


Figure 58 – Explanation Deleted in CMS but not in LIE Admin Tool



#20 moving an explanation to a new scope

Business Requirement

#5.01 *“The system shall provide a flexible solution to enable identification and updates (additions, deletions, changes) of explanations in a quick and easy manner to support the needs of the business.”*

#5.05 *“The system shall attach a scope to each explanation. The scope (in order of decreasing inclusion) is global, limited to Consumer or General Business, specific jurisdiction, only one state, limit to one NPA (area code), or one NPA/NXX combination.”*

Actors/Roles

Actor is a Content Writer in the role of an **Author, Moderator, or Editor.**

Intent or Actor Purpose

The content writer wants to change the scope to apply this explanation to bill line items.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Extends: #9 editing an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The explanation link displays as a yellow or green icon in the LIE Admin tool, indicating it exists in the CMS repository.

Table 24 – Basic Course of Events: #20 moving an explanation to a new scope

User Action	LIE-CMS System Action
1. Actor selects View on the CMS Select Action page (Figure 35 on page 62)	
	2. CMS displays functionalities shown in Figure 59 on page 92.
3. Actor clicks the <u>Change Level</u> link.	
	4. CMS displays the Change Level Page to select the new explanation scope.
5. From drop-down lists, select {LOB [Consumer General Business], Level [Global Explanation LOB FSC State NPA-NXX] }. (See Figure 60.)	
	6. CMS redisplay the explanation and functionality list with its scope changed according to the selections in step #5.
Alternative Path for Step (5): User chooses not to change the level of scope	
5a-1. Click Cancel.	
	5a-2. CMS redisplay the functionality options shown.

Post Conditions

- The scope of the explanation is changed to the specifications selected in the two drop-down selection lists in Figure 60 on page 92.
- For state and NPA-NXX scope levels, the explanation scope value (**Channel** shown on Figure 61) matches the customer bill containing the line item.

Related Business Rules

If the actor selects to change the scope to the *State* or *NPA-NXX* levels, the actual values are inherited from the customer account bill that contained the line item associated with this explanation.

Graphical User Interfaces

See Figure 59 through Figure 61.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 59 – Explanation Before Scope Change

Page Status: Saved
Lock Status: WinNT://ITCENT/cmsTestAu

[Edit](#)

[Delete](#)
[Change Level](#)

[Submit](#)

[Approval Assistant](#)
[Production Manager](#)

[Revision History](#)
[View Revisions by Date](#)

Explanation
Explanation for scope level change

Relevant Links

Additional Information

Comments
Explanation for scope level change

Figure 60 – Change Level Page Displays

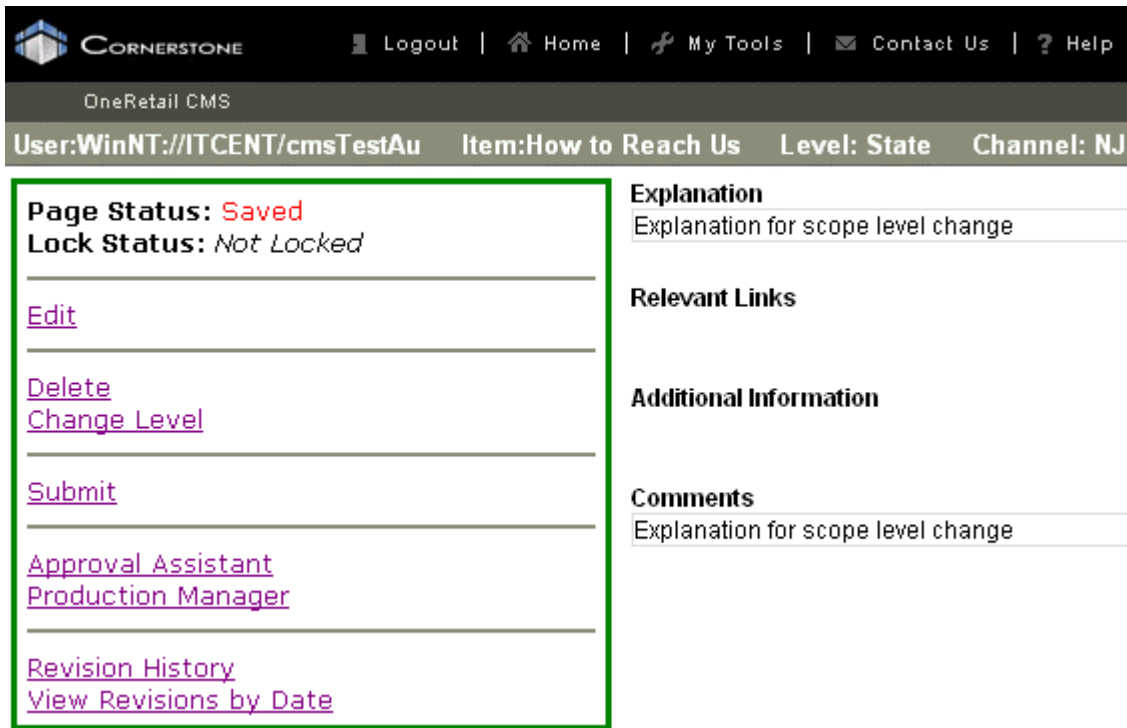
LOB Consumer

Level State

Choose...
Global Explanation
LOB
FSC
State
NPA-NXX

Submit

Figure 61 – Explanation Scope Changed to State



#21 approving/declining an explanation

Business Requirements

#5.01 *“The system shall provide a flexible solution to enable identification and updates (additions, deletions, changes) of explanations in a quick and easy manner to support the needs of the business.”*

#5.02 *“The system will have restricted access. A login/password will be required.”*

Actors/Roles

Actor is a Content Writer in the role of an **Editor** or **Moderator**.

Intent or Actor Purpose

Review an authored explanation for correct grammar, spelling, and format. Once approved by the editor, the Moderator accepts or declines the explanation based on legal and regulatory obligations.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Extends: #n ????????????

Similar: #n ????????????

Equivalent: #m ??

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The explanation link displays as a yellow icon (unapproved) in the LIE Admin tool, indicating it exists in the CMS repository.

Table 25 – Basic Course of Events: #nn use case title

User Action	LIE-CMS System Action
1. xxxxxxxx	
	2. yyyy.
3. yyyyyyyy	
	4. xxxxx.
5. xxxxxxx.	
	6. zzzzzzz.
7. aaaaaaaaaa	
	8. xxxxxxxxx

Post Conditions

- ??????
- xxxxxxx

Related Business Rules

xxxxxxxxxx

Graphical User Interfaces

See Figure xx through Figure yy, beginning on page zz.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

AWAITING CMS AUTHORIZATION

#22 publishing an explanation to production

Business Requirements

#5.01 “The system shall provide a flexible solution to enable identification and updates (additions, deletions, changes) of explanations in a quick and easy manner to support the needs

Line Item Explanation-CMS Use Cases#24 approving/declining multiple explanations (Approval Assistant)

of the business.”

#5.02 *“The system will have restricted access. A login/password will be required.”*

Actors/Roles

Actor is a Content Writer in the role of **Moderator**.

Intent or Actor Purpose

Insert the goal that the actor wants to achieve with this use case.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Extends: #21 approving/declining an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The explanation link displays as a yellow icon (unapproved) in the LIE Admin tool, indicating it exists in the CMS repository.

AWAITING CMS AUTHORIZATION

#24 approving/declining multiple explanations (Approval Assistant)

Business Requirements

#5.01 *“The system shall provide a flexible solution to enable identification and updates (additions, deletions, changes) of explanations in a quick and easy manner to support the needs of the business.”*

#5.02 *“The system will have restricted access. A login/password will be required.”*

Actors/Roles

Actor is a Content Writer in the role of **Moderator**.

Intent or Actor Purpose

Insert the goal that the actor wants to achieve with this use case.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Equivalent: #21 approving/declining an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The explanation links display as a yellow icons (unapproved) in the LIE Admin tool, indicating they exist as unapproved explanations in the CMS repository.

AWAITING CMS AUTHORIZATION

#25 adding writer's comments to an explanation**Business Requirements**

None. Zouhair Sebat's content writers needed a mechanism to communicate changes between the authors, editors, and moderators working in different groups.

Actors/Roles

Actor is a Content Writer in the role of **Author**, **Editor**, or **Moderator**.

Intent or Actor Purpose

Content Writers add comments to document why they made specific changes to this explanation. Such comments might describe reoccurring editorial errors or some regulatory language that must be included to satisfy a state or municipality requirement.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Extends: #9 editing an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.

Table 26 – Basic Course of Events: #25 adding a writer's comments to an explanation

User Action	LIE-CMS System Action
1. Actor selects <u>Explain</u> on the CMS Select Action page (Figure 35 on page 62)	
	2. CMS displays functionalities shown in Figure 39 on page 67.
3. Actor clicks the <u>Edit</u> link.	
	4. Edit Line Item Explanation Page displays as illustrated in Figure 40 on page 69.
5. Actor changes the text in the Comments text field.	
6. Actor selects {Save, Save and Exit, or Exit} from the page.	
	7a. Clicking Save and Exit displays a menu of other explanation functionality. (See Figure 39 on page 67.)
	7b. Clicking Save to keep the Edit Line Item Explanation Page displayed.
8. Click the close <input type="checkbox"/> button to remove the CMS window.	
Step (7): Actor wishes to Cancel the Save operation	
	7c-1. Click Exit displays a warning that unsaved changes will be lost.
7c-2. Click OK to display the menu.	

Post Conditions

Comments in the explanation are changed and saved in CMS repository.

Related Business Rules

None.

Graphical User Interfaces

None. See the #9 editing an explanation use case (beginning on page 67) for appropriate screens.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

#36 import a single bill for new line items

The LIE Admin Tool can import a specific customer account bill so that content writers can develop explanations based on specific line items (patterns) contexts found in a Verizon jurisdiction.

Business Requirements

#5.07 *“The system shall provide the ability to retrieve a specific bill from the backend and store it locally in the admin tool so you can work with it's piece parts.”*

Actors/Roles

Actor is a Content Writer in the role of **Author**.

Intent or Actor Purpose

The Content Writer wants the latest or a specific bill (specifies the actual bill date) for a customer

account within a specific Verizon jurisdiction (EXPRESS, NPD, NYNE, MDVW, etc.).

Relationship to Other Use Case(s)

None

Preconditions

- The LIE Production systems are online and loaded with current production content.
- The selected BillView jurisdiction connection must be online to get the latest bill from BillView Oracle database or the back-end system corresponding to the selected jurisdiction.

Table 27 – Basic Course of Events: #36 import a single bill for new line items

User Action	LIE-CMS System Action
1. Start Internet Explorer and supply the URL for the LIE Admin Tool.	
	2. LIE displays the home page with its functionality options.
3. Click the <u>Import Bills</u> link.	
	4. LIE displays the Import Bills page.
5. Specify the {AccountID, FSC ID}.	
6. Specify the desired [Bill Date (MM/DD/YYYY format) checkbox to Import the latest statement].	
7. Click Import button.	
	8. LIE locates the bill in the BillView Oracle database or the appropriate back-end system for this jurisdiction.
	9. LIE Admin tool displays the message "Statement Imported Successfully".

Post Conditions

- The billing statement is inserted into the LIE Research Pattern Identification database.
- The bill is parsed and line item content icons display on the bill (Admin mode).
(See **Error! Reference source not found.** on page **Error! Bookmark not defined.**)

Related Business Rules

- The specified customer account ID *must exist* in the BillView or back-end system for the chosen jurisdiction.
- *If* the user specifies a Bill Date, a statement with that date and customer account ID number *must exist* in the BillView or back-end system for the chosen jurisdiction

Graphical User Interfaces

See **Error! Reference source not found.** and **Error! Reference source not found.**

Related Documents

- *Line Item Explanation - Consolidated AR General Design*

Figure 62 – Import Bills Page

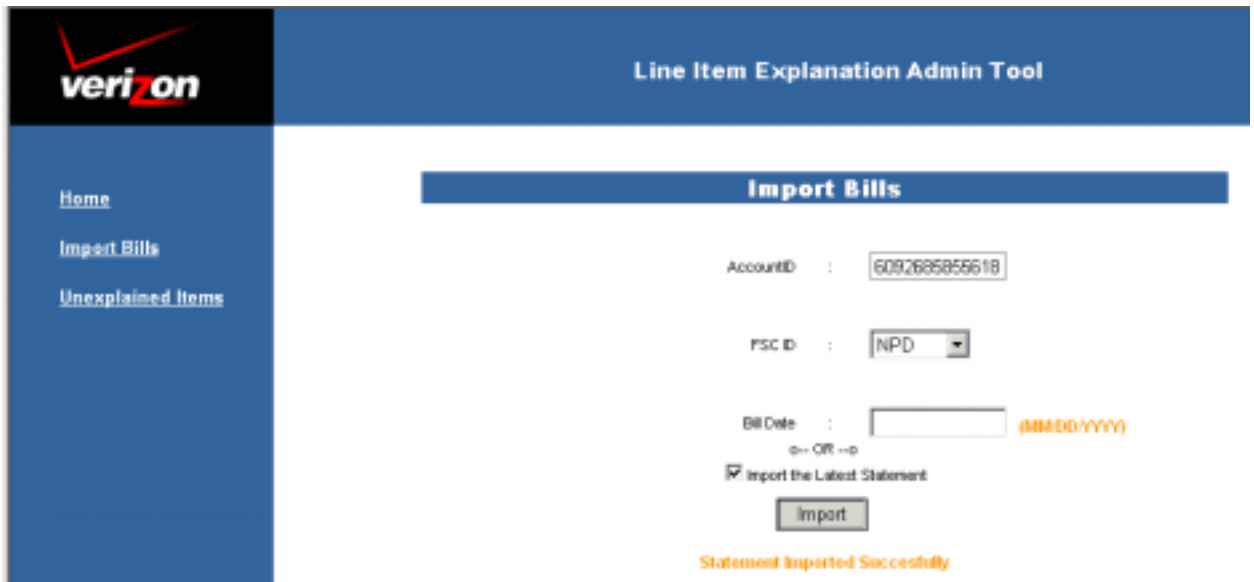


Figure 63 – Imported Bill Displayed in Admin Mode

The screenshot displays the Verizon Line Item Explanation Admin Tool interface. The top left features the Verizon logo. The top right is titled "Line Item Explanation Admin Tool". Below the logo is a navigation menu with links: Home, Import Bills, Unexplained Items, Pageviews for NPD, Statement Page, Local Section, Verizon Long Distance, Basic Charges, Toll Calls, and Non-basic Charges. The main content area shows account information for ROSE DANIEL at 16 MOORE RD, TABERNACLE, NJ 08088-8720, with phone number 8509 268-5855 and account number 809268585518. The bill date is set to May 29, 2003. There are buttons for "Billing Terms" and "Paper Bill Suppression". A "pay" button is also visible. Below this, there are links for "Download Bills", "Print Current Bill", "Print Current Page", and "User Preferences". The main section is titled "How Your Charges are Billed" and lists several charge categories with descriptions:

- Basic Local Charges:** Your telephone includes two types of service charges: Charges for local telephone service, local service usage, nonrecurring charges for basic services (i.e., service ordering charges and installation charges for basic service), federally mandated subscriber line charges and applicable State and Federal taxes. Your bill will always include some regulated service charges.
- Non-Basic Charges:** Services not regulated by the NJ Board of Public Utilities
- Toll Charges:** Charges for both regional and long distance calls
- Other Charges:**

At the bottom, there is a summary table:

	Past Due Balances	Current Charges	Totals
Basic Local Charges	41.50	15.33	56.83
Non Basic Charges			
Toll Charges	2.88	0.08	2.96
Other Charges	99.54	90.75	190.29
Totals	143.92	106.16	250.08

7.4 Question/Answer Set Use Cases

Note: The client has requested a delay in implementing this functionality. These use cases remain unfinished until the Verizon client decides how to proceed.

Involves Question/Answer Sets for General Information and Billing Section Help

- #26 adding question/answer set
- #27 editing question/answer set
- #28 displaying question/answer set in customer view
- #29 deleting a question/answer set
- #30 approving/declining a question/answer set
- #31 publishing question/answer set to production

- #33 approving/declining multiple question/answer sets
- #34 adding writer comments to a question/answer set

#26 adding question/answer set

Business Requirements

#1.01 *“This initiative is applicable to all formats in the East for Consumer and General Business customers.”*

#1.03 *“The system shall provide an explanation of billing concepts (in context) associated with a bill that may not appear as a line on the bill, that is, bill period, credits, etc.”*

#1.05 *“The system must be able to provide explanations at one of the following levels: global, LOB, jurisdiction (that is, NY, NE, eTrak, etc.), state, NPA, and NPA NXX.”*

Actors/Roles

Actor is a Content Writer in the role of **Author** or **Editor**.

Intent or Actor Purpose

Add customer question and the answer set that will be used in one or more areas of the billing section help.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Similar: #8 Adding a new explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.

#27 editing question/answer set

Business Requirements

#1.03 *“The system shall provide an explanation of billing concepts (in context) associated with a bill that may not appear as a line on the bill, that is, bill period, credits, etc.”*

Actors/Roles

Actor is a Content Writer in the role of **Author** or **Editor**.

Intent or Actor Purpose

Change a customer question and the answer set that will be used in one or more areas of the billing section help.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Extends: #26 adding a question/answer set

Similar: #9 Editing an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The question/answer set exists in the CMS repository.

#28 displaying question/answer set in customer view

Business Requirements

#1.03 *“The system shall provide an explanation of billing concepts (in context) associated with a bill that may not appear as a line on the bill, that is, bill period, credits, etc.”*

#1.04 *“The system shall adhere to standard Verizon.com page elements for verizon.com pages.”*

Actors/Roles

Actor is a Content Writer in the role of **Author, Editor, or Moderator.**

Intent or Actor Purpose

Display a customer question and the answer set that will be used in one or more areas of the billing section help.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Similar: #14 displaying explanation in customer view

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The question/answer set exists in the CMS repository.

#29 deleting a question/answer set

Business Requirements

#5.01 *“The system shall provide a flexible solution to enable identification and updates (additions, deletions, changes) of explanations in a quick and easy manner to support the needs of the business.”*

#5.02 *“The system will have restricted access. A login/password will be required.”*

Actors/Roles

Actor is a Content Writer in the role of **Author, Editor, or Moderator.**

Intent or Actor Purpose

Delete a customer question and the answer set that will be used in one or more areas of the billing section help.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Similar: #17 deleting an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The question/answer set exists in the CMS repository.

#30 approving/declining a question/answer set**Business Requirements**

#1.03 *“The system shall provide an explanation of billing concepts (in context) associated with a bill that may not appear as a line on the bill, that is, bill period, credits, etc.”*

#5.02 *“The system will have restricted access. A login/password will be required.”*

Actors/Roles

Actor is a Content Writer in the role of **Moderator** or **Editor**.

Intent or Actor Purpose

Approve or decline a customer question and the answer set that will be used in one or more areas of the billing section help.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Similar: #21 approving/declining an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The question/answer set exists in the CMS repository and has a non-published CMS status.

#31 publishing question/answer set to production**Business Requirements**

#1.03 *“The system shall provide an explanation of billing concepts (in context) associated with a bill that may not appear as a line on the bill, that is, bill period, credits, etc.”*

#5.02 *“The system will have restricted access. A login/password will be required.”*

Actors/Roles

Actor is a Content Writer in the role of **Moderator**.

Intent or Actor Purpose

Publishing a customer question and the answer set that will be used in one or more areas of the billing section help.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Extends: #30 approving/declining a question/answer set

Similar: #22 publishing an explanation to production

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The question/answer set exists in the CMS repository and has a non-published CMS status.

#33 approving/declining multiple question/answer sets**Business Requirements**

#1.03 *“The system shall provide an explanation of billing concepts (in context) associated with a bill that may not appear as a line on the bill, that is, bill period, credits, etc.”*

#5.02 *“The system will have restricted access. A login/password will be required.”*

Actors/Roles

Actor is a Content Writer in the role of **Moderator**.

Intent or Actor Purpose

Approving or declining several customer question and the answer set at one time.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Extends: #30 approving/declining a question/answer set

Similar: #24 approving/declining multiple explanations

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.

#34 adding writer comments to a question/answer set**Business Requirements**

None

Actors/Roles

Actor is a Content Writer in the role of **Author**, **Editor**, or **Moderator**.

Intent or Actor Purpose

Insert a comment documenting the changes made to a question and answer set.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Extends: #9 editing an explanation

Similar: #25 adding writer comments to a question/answer set

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.
- The question/answer set exists in the CMS repository.

7.5 Reporting Use Cases

Involves interactive reports generated from the LIE Admin and CMS software

- #35 displaying CMS repository state statistics
- #37 displaying a jurisdiction's unexplained line items
- #38 displaying explanation (question/answer set) revision history
- #39 displaying explanation (question/answer set) revisions by date
- #23 displaying list of explanations
- #32 displaying list of question/answer sets

#35 displaying CMS repository state statistics**Business Requirements**

#9.01 *“New metrics shall be added to capture results for each explanation being provided, when appropriate.”*

#9.02 *“The system shall provide metrics broken down by General Business and Consumer for each State, for each explanation. These shall include: (a) BAU options, (b) summary report, and (c) ability to report on the top 50 most frequently requested explanations.”*

Actors/Roles

Actor is a Content Writer in the role of **Author**.

Intent or Actor Purpose

Insert the goal that the actor wants to achieve with this use case.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- The CMS and LIE Production systems are online and loaded with current production content.

#37 displaying a jurisdiction's unexplained line items**Business Requirements**

#9.03 *“The system shall provide for reporting for the LIE Pattern Identification Research database filtered by Account Number, bill date, Jurisdiction, state, NPA, NXX, section, and explanations.”*

Actors/Roles

Actor is a Content Writer in the role of **Author, Editor, or Moderator**.

Intent or Actor Purpose

The Content Writer runs a statistical report against all the line items in the LIE Research Pattern Identification database. To restrict the report to a manageable number of line items, set the number of occurrences at a significant level. The LIE development team recommends an initial value of **500** occurrences.

Once the summary report is displayed, a content writer can click on a link to display an example bill in Admin mode. The content writer can then click any of the LIE icons and implement the LIE-CMS content writer use cases.

Relationship to Other Use Case(s)

Extends: #2 assigning a billing entity to an explanation

Preconditions

- The LIE Research Pattern Identification database is online and loaded with bills from the desired jurisdiction (FSC ID).
- Approximately 1000 bills should be parsed and loaded into the LIE Research Pattern identification database.

Table 28 – Basic Course of Events: #37 displaying a jurisdiction's unexplained line items

User Action	LIE-CMS System Action
1. Start Internet Explorer and supply the URL for the LIE Admin Tool.	
	2. LIE displays the home page with its functionality options.
3. Click the <u>Unexplained Items</u> link.	
	4. LIE displays the <i>Get Unexplained Line Items Report</i> page.
5. Specify the {Occurrences, FSC ID}. Use 500 as an initial number of the Occurrences.	
	6. LIE displays the Unexplained Items Summary Report.
7. For the desired line item, click the link for an example bill.	
	8. LIE locates the bill in the BillView Oracle database or the appropriate back-end system for this jurisdiction.
	9. LIE Admin tool displays the Bill in Admin mode.
10. Click Back button on Internet.	
11. Repeat steps #7 through #10 for all desired line items.	

Post Conditions

- The Unexplained Items Summary Report is displayed. (See *Figure 65 – Unexplained Items Summary Report* on page 108.)
- Selecting a line item and clicking the link in the Unexplained Items Summary Report displays the bill in Admin Mode. (See *Figure 66 – Example Bill from Summary Report Link* on page 109.)

Related Business Rules

- The specified customer account ID *must exist* in the BillView or back-end system for the chosen jurisdiction.
- *If* the user specifies a Bill Date, a statement with that date and customer account ID number *must exist* in the BillView or back-end system for the chosen jurisdiction

Graphical User Interfaces

See Figure 64 through Figure 66.

Related Documents

- *Line Item Explanation - Consolidated AR General Design*

Figure 64 – Create Unexplained Items Report

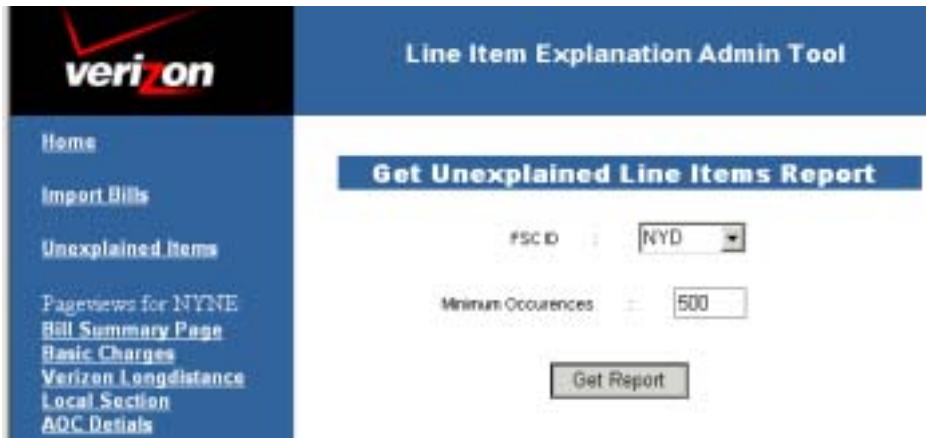


Figure 65 – Unexplained Items Summary Report

The screenshot displays a summary report of unexplained items. The report is organized into rows, each representing a different line item. Each row includes the line item ID, the number of occurrences, and the context. The items listed include:

- Line Item: 01-84, Context: DETAILSITEMIZED_CALL_SECTIONVERIZON_REGIONAL_CALLSITEMIZED_HEADER_WRAPPER_SECTION, No of Occurrences: 11
- Line Item: 01-84, Context: DETAILSITEMIZED_CALL_SECTIONVERIZON_REGIONAL_CALLSITEMIZED_HEADER_WRAPPER_SECTION, No of Occurrences: 14
- Line Item: 01-28, Context: DETAILSITEMIZED_CALL_SECTIONVERIZON_SENSIBLE_MINUTE(SM), No of Occurrences: 72
- Line Item: 01-22, Context: DETAILSITEMIZED_CALL_SECTIONVERIZON_WEEKEND_CHOICE(SM), No of Occurrences: 1
- Line Item: 01-85, Context: DETAILSINC_DTL_SECTIONBAC_SECTION, No of Occurrences: 457
- Line Item: 01-85, Context: DETAILSITEMIZED_CALL_SECTIONVERIZON_SENSIBLE_MINUTE(SM)_CALLS, No of Occurrences: 457
- Line Item: 01-85, Context: DETAILSITEMIZED_CALL_SECTIONVERIZON_SENSIBLE_MINUTE(SM)_CALLS, No of Occurrences: 457
- Line Item: 01-85, Context: DETAILSINC_DTL_SECTIONBAC_SECTION, No of Occurrences: 457

A note on the right side of the report states: "Use this bill to display the line item context".

Figure 66 – Example Bill from Summary Report Link

Line Item Explanation Admin Tool

Acquiesita Y Cooper
Apt 21164-37 100 Dr
Jamaica NY 11433-2903
Phone # 718 555-0299

Account #7185550299370

Billing Terms

Paper Bill Suppression

Bill Date: Mar 01 2003

Enhanced! pay

Important Messages | Download Bills | Print Current Bill | Print Current Page | User Preferences

New Charges

Line Number 718-555-0299	
Verizon Basic Local Services	
New Charges	
Monthly Charge for Dial Tone	0.00
Verizon Calling Card	0.00
Surcharges and Taxes	0.77
Federal Tax	0.21
Surcharge(s)	0.36
NY State-Local Sales Tax	0.50
Total	\$0.77

Verizon Optional Services

Busy Redial	0.00
99	0.00
Network Interface	0.00
Call Waiting ID With Name	0.00
Scalable Minute(s) Plan	Unexplained line item in context
Call Intercept	4.76

#38 displaying explanation revision history

Business Requirements

#9.03 “The system shall provide for reporting for the LIE Pattern Identification Research database filtered by Account Number, bill date, Jurisdiction, state, NPA, NXX, section, and explanations.”

Actors/Roles

Actor is a Content Writer in the role of **Author, Editor, or Moderator**.

Intent or Actor Purpose

The content writer (or system administrator) wants to review who and when changes were made to an explanation or a question and answer sets.





Relationship to Other Use Case(s)

None

Preconditions

- The CMS repository and the LIE Admin tool are online and loaded with current production content.

Table 29 – Basic Course of Events: #38 displaying explanation revision history

User Action	LIE-CMS System Action
1. Click on a line item in Admin mode that displays a green or yellow icon.	
	2. CMS displays the options for an existing explanation. (See Figure 35.)
3. Click the <u>View</u> link.	
	4. CMS displays the explanation function links, the line item explanation, the relevant links, and more information. (See Figure 67.)
5. Click the <u>Revision History</u> link.	
	6. CMS displays the main Revision History page. (See Figure 68.)
7. Click the  icon to display the explanation.	
	8. CMS displays the line item explanation, the relevant links, and more information.
9. Click the Close  window control.	
	10. CMS closes the window and the Revision History page displays.
11. Click the  icon to display the Page Properties.	
	12. CMS displays the Page Properties page showing the Standard dialog tab.
13. Click the Custom dialog tab.	
	14. CMS displays Custom Page Properties that include the LIE GUID value. (See Figure 70).
15. Click the Close  window control.	
	16. CMS closes the window and the Revision History page displays.

Post Conditions

Explanation is displayed on the screen. (See Figure 67.)

Related Business Rules

Explanation exists in the CMS directory and is not ignored.

Graphical User Interfaces

See Figure 67 through Figure 70.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 67 – Explanation to View Revisions

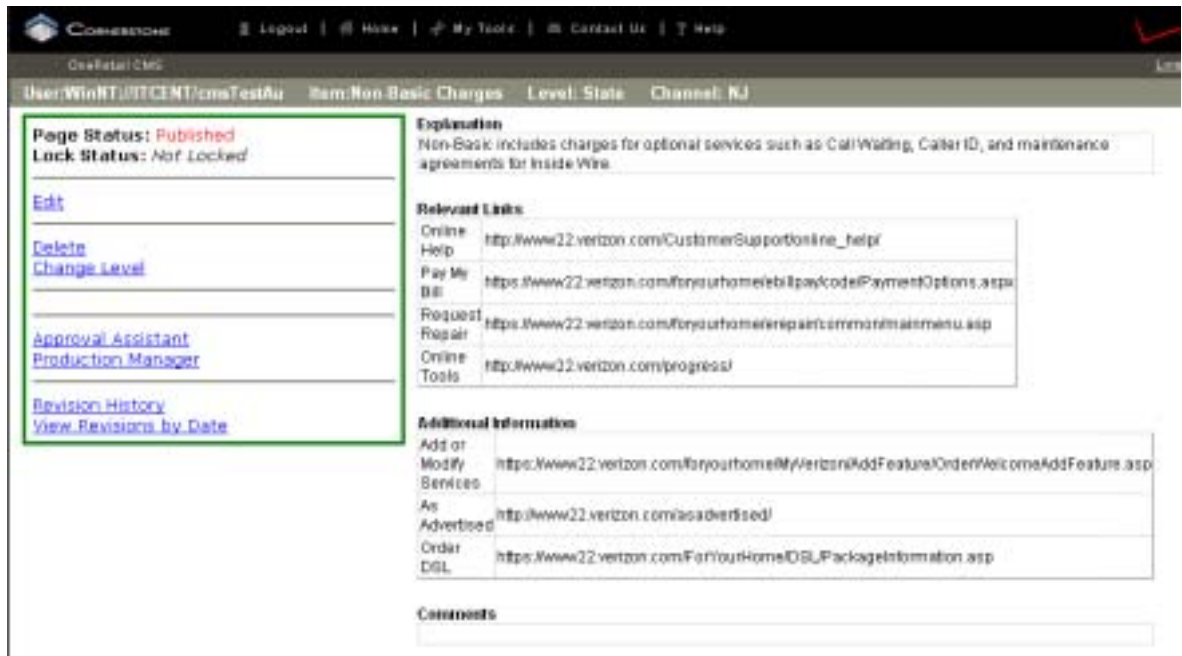


Figure 68 – Revision History

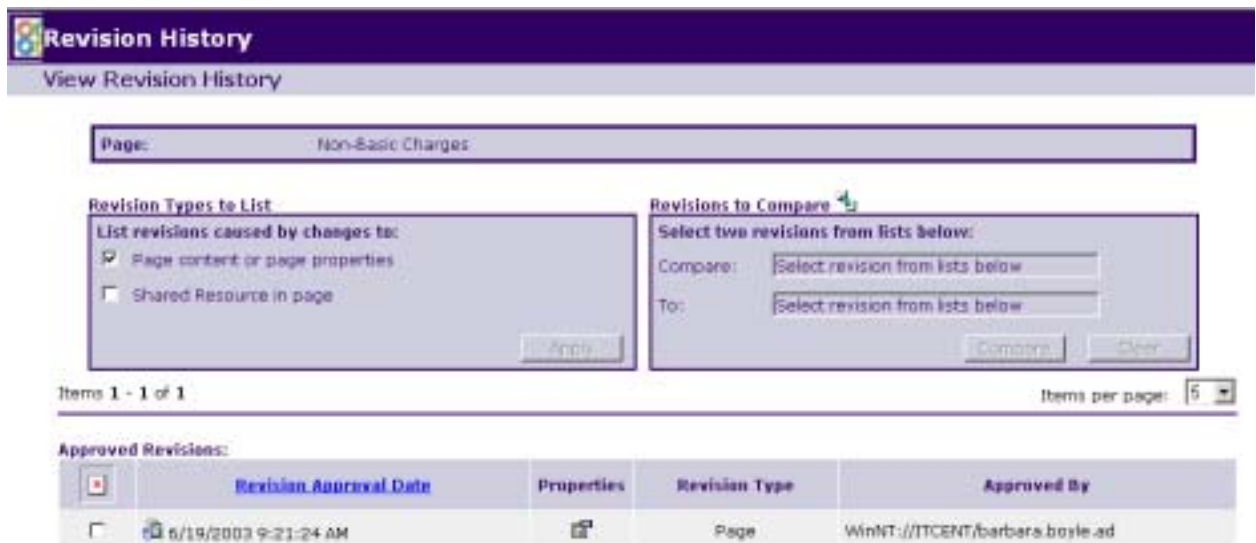


Figure 69 – Explanation Page Properties - Standard

Page Properties

Name: 631916056498150420
 Display Name: Non Basic Charges
 URL: /OneRetailCMS/BillingExplanations/Display/Consumer/FSC201/Context266/LineItem2
 Template Path: /Templates/OneRetailCMS/BillingExplanations/Display/Explanation

Standard Custom

Description:

Publishing Options

Start Publishing: 6/19/2003 2:47:30 AM
 Stop Publishing: Never
 Owner: Everybody
 Last Modified: 6/19/2003 9:50:20 AM

Important Page: No Web Robots Can Crawl Links: Yes
 Hide When Published: No Web Robots Can Index This Page: Yes

Cancel

Figure 70 – Explanation Page Properties - Custom

Page Properties

Name: 631916056498150420
 Display Name: Non Basic Charges
 URL: /OneRetailCMS/BillingExplanations/Display/Consumer/FSC201/Context266/LineItem2
 Template Path: /Templates/OneRetailCMS/BillingExplanations/Display/Explanation

Standard Custom

Name	Type	Use Default	Current Value	Default
cpTextID	Text	False	7B7d1a6cae525e8780d2d8cbd	
QString	Text	False	Context=DETAILS%2fCHG_SU	

Cancel

#39 displaying explanation revisions by date**Business Requirements**

#9.03 “The system shall provide for reporting for the LIE Pattern Identification Research database filtered by Account Number, bill date, Jurisdiction, state, NPA, NXX, section, and explanations.”

Actors/Roles

Actor is a Content Writer in the role of **Author, Editor, or Moderator**.

Intent or Actor Purpose

The Content Writer wants to see the explanation as it existed on a specific day and time.


Relationship to Other Use Case(s)

None

Preconditions

- The CMS repository and the LIE Admin tool are online and loaded with current production content.

Table 30 – Basic Course of Events: #39 displaying explanation revisions by date

User Action	LIE-CMS System Action
1. Click on a line item in Admin mode that displays a green or yellow icon.	
	2. CMS displays the options for an existing explanation. (See Figure 35.)
3. Click the <u>View</u> link.	
	4. CMS displays the explanation function links, the line item explanation, the relevant links, and more information. (See Figure 67.)
5. Click the <u>View Revisions by Date</u> link.	
	6. CMS displays the main View Revisions by Date page. (See Figure 71.)
7. [Optional] Click Calendar Widget  icon.	
	8. Calendar displays (See Figure 72.)
9. [Optional] Click on [day number, ≤, ≥] to select date and navigate through months.	
10. Click View button.	
	11. CMS displays the explanation text.

Post Conditions

CMS displays the explanation text for the date and time specified.

Related Business Rules

Explanation must exist in the CMS repository.

Graphical User Interfaces

See Figure 71, Figure 72, and Figure 67.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 71 – Revisions by Date Page

Figure 72 – Select Date using Calendar Widget

#23 displaying list of explanations (Production Manager)

Business Requirement

None.

Actors/Roles

Actor is a Content Writer in the role of an **Author, Moderator, or Editor.**

Intent or Actor Purpose

Display a list of explanations belonging to a single CMS user.



Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- User clicks on a single existing explanation.
- CMS and LIE Production systems are online and loaded with current production content.

Table 31 – Basic Course of Events: #23 displaying list of explanations

User Action	LIE-CMS System Action
1. Click on a line item in Admin mode that displays a green or yellow icon.	
	2. CMS displays the options for an existing explanation. (See Figure 35.)
3. Click the <u>View</u> link.	
	4. CMS displays the explanation function links, the line item explanation, the relevant links, and more information. (See Figure 67.)
5. Click the <u>Production Manager</u> link.	
	6. CMS displays the main Production Manager page. (See Figure 73.)
7. Click the  icon to display the explanation.	
	8. CMS displays the line item explanation, the relevant links, and more information.
9. Click the Close  window control.	
	10. CMS closes the window and the explanation page displays.

Post Conditions

The Production Manager page displays and lists all explanations currently belonging to this CMS user.

Related Business Rules

None.

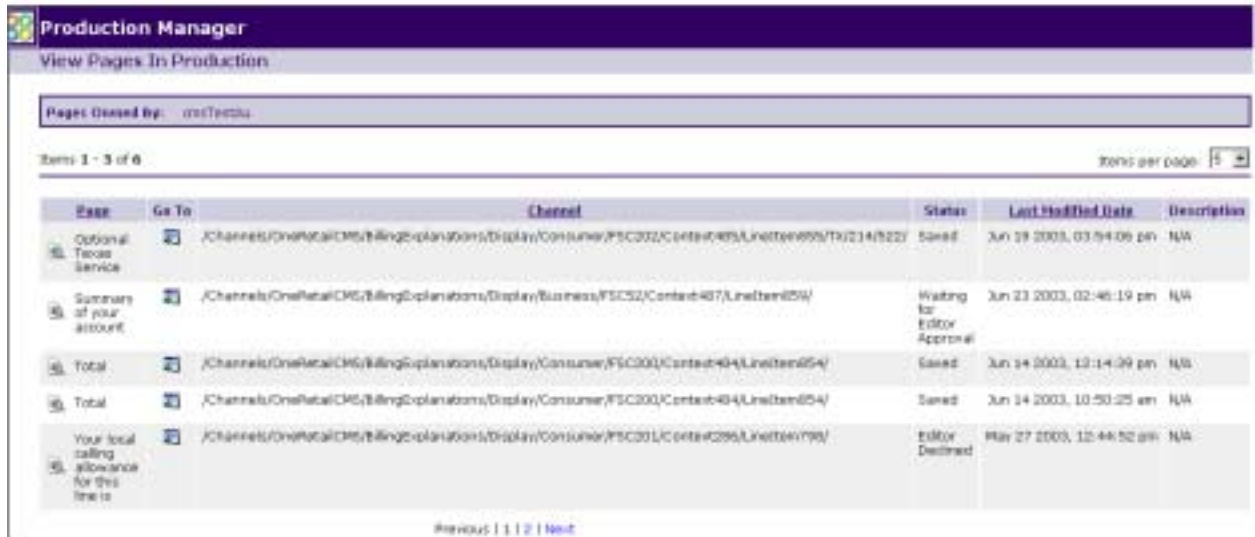
Graphical User Interfaces

See Figure 73.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

Figure 73 – Production Manager Display



#32 displaying list of question/answer sets

Business Requirements

#1.03 *“The system shall provide an explanation of billing concepts (in context) associated with a bill that may not appear as a line on the bill, that is, bill period, credits, etc.”*

Actors/Roles

Actor is a Content Writer in the role of **Author**, **Editor**, or **Moderator**.

Intent or Actor Purpose

Insert the goal that the actor wants to achieve with this use case.

Relationship to Other Use Case(s)

Includes: #2 assigning a billing entity to an explanation

Specializes:

Extends: #n ????????????

Similar: #n ????????????

Equivalent: #m ????????????????????????????????

Preconditions

- The actor is authenticated to the CMS system and selects a bill item using LIE Admin software. Use case #2 assigning a billing entity to an explanation on page 58 describes this functionality.
- CMS and LIE Production systems are online and loaded with current production content.

Table 32 – Basic Course of Events: #32 displaying list of question/answer sets

User Action	LIE-CMS System Action
1. xxxxxxxx	
	2. yyyy.
3. yyyyyyyy	
	4. xxxxx.
5. xxxxxxx.	
	6. zzzzzzzz.
7. aaaaaaaaaa	
	8. xxxxxxxxxx

Post Conditions

- ??????
- xxxxxxx

Related Business Rules

xxxxxxxxxx

Graphical User Interfaces

See Figure xx through Figure yy, beginning on page zz.

Related Documents

- *Explanation of Charges on the Bill – BRD – June Release – v1.02*
- *CMS Line Item Explanation General Design*
- *Line Item Explanation - Consolidated AR General Design*

