

Customer Communications Portal Management

1 Descriptions of Function

Issues confronting an Energy Company's Management Systems responsible for management of Telecommunications and Access Networks to support Customer Communications Portals.

1.1 Function Name

Customer Communications Portal Management

1.2 Function ID

IECSA identification number of the function

C-2.2

1.3 Brief Description

This scenario attempts to describe key issues relevant to the operation of Management Systems in a large Energy Company (Electric and/or Gas and/or Water with several million customers) that provide access to information from and access to control devices located at customer sites. Access to information from devices and access to control one or more devices on the customer premises is provided via Customer Communications Portals.

The key macroscopic issues associated with the management activity are illustrated.

1.4 Narrative

This scenario attempts to describe key issues relevant to the operation of Management Systems in a large Energy Company (Electric and/or Gas and/or Water with several million customers) that provide access to information from and access to control devices located at customer sites. Access to information from devices and access to control one or more devices on the customer premises is provided via Customer Communications Portals.

The entities involved in the communications have separate ownership – meters by distribution companies, power quality information by the customers and the distribution companies, load control devices by the customer and portals by the telecommunications service or other customer site equipment/services provider. Although these owners collaborate on some utility related activities, the nature and purpose of the devices is independent of these applications. For this reason recognition of ownership boundaries and independent management of devices and data needs to be recognized in the management of services that involve their collaboration.

Because some of the information gathered has economic and other consequences, and, since acquisition of information is imperfect, the system needs to accommodate a process of categorization of the quality of data; that categorization may also change over time as data is processed by various entities responsible for using it. A listing of some of the key common macroscopic issues include:

- 1) Recognition of the needs of multiple business entities that need access to Portals, data derived from these portals and related telecommunications and computing infrastructures.
- 2) Ownership of data, i.e., clear identification of who's responsible (Company, person, internal energy business entity or external entity, system) for ensuring that the customer data is correct, and for data that will be used for billing or other business purposes is validated
- 3) Data obtained from customer purposes must be stored and processed in a secure manner with appropriate levels of back up and access control
- 4) Clear identification of business entities (internal energy company or external), applications and individuals that can access data and issue control commands will be established and agreed to by the energy company and the various entities making use of the portals/access networks.
- 5) Access control procedures will be developed and agreed to by the various business entities (internal energy company or external) that obtain data from energy company customer portals or that implement control commands for particular customers or customer classes
- 6) Security Policies will be developed and agreed to by the various business entities (internal energy company or external) that obtain data from energy company customer portals (or databases that store this data) or that implement control commands for particular customers or customer classes. Particular attention should be paid to security requirements either mandated or recommended by both Government and regulatory communities and gleaned from best practices developed by the business community at large.

- 7) Recognition that there may be many existing and future potential Business Models and Business “Standard Practices” for Energy Service provisioning from Regulatory Communities¹. Thus technical requirements for supporting access to Customer Portals and the telecommunications access networks must be flexible enough to accommodate future Energy Services provisioning companies and various entities’ requirements for customer data access.

1.5 Actor (Stakeholder) Roles

Describe all the people (their job), systems, databases, organizations, and devices involved in or affected by the Function (e.g. operators, system administrators, technicians, end users, service personnel, executives, SCADA system, real-time database, RTO, RTU, IED, power system). Typically, these actors are logically grouped by organization or functional boundaries or just for collaboration purpose of this use case. We need to identify these groupings and their relevant roles and understand the constituency. The same actor could play different roles in different Functions, but only one role in one Function. If the same actor (e.g. the same person) does play multiple roles in one Function, list these different actor-roles as separate rows.

<i>Grouping (Community)'</i>		<i>Group Description</i>
<i>Actor Name</i>	<i>Actor Type (person, device, system etc.)</i>	<i>Actor Description</i>

Replicate this table for each logic group.

¹ Requirements will need to be robust for a variety of potential business models since implementation of direct access and other forms of energy industry deregulation are in flux

1.6 Information exchanged

Describe any information exchanged in this template.

<i>Information Object Name</i>	<i>Information Object Description</i>

1.7 Activities/Services

Describe or list the activities and services involved in this Function (in the context of this Function). An activity or service can be provided by a computer system, a set of applications, or manual procedures. These activities/services should be described at an appropriate level, with the understanding that sub-activities and services should be described if they are important for operational issues, automation needs, and implementation reasons. Other sub-activities/services could be left for later analysis.

<i>Activity/Service Name</i>	<i>Activities/Services Provided</i>

1.8 Contracts/Regulations

Identify any overall (human-initiated) contracts, regulations, policies, financial considerations, engineering constraints, pollution constraints, and other environmental quality issues that affect the design and requirements of the Function.

<i>Contract/Regulation</i>	<i>Impact of Contract/Regulation on Function</i>

<i>Policy</i>	<i>From Actor</i>	<i>May</i>	<i>Shall Not</i>	<i>Shall</i>	<i>Description (verb)</i>	<i>To Actor</i>

<i>Constraint</i>	<i>Type</i>	<i>Description</i>	<i>Applies to</i>

2 Step by Step Analysis of Function

Describe steps that implement the function. If there is more than one set of steps that are relevant, make a copy of the following section grouping (Preconditions and Assumptions, Steps normal sequence, and Steps alternate or exceptional sequence, Post conditions)

2.1 Steps to implement function

Name of this sequence.

2.1.1 Preconditions and Assumptions

Describe conditions that must exist prior to the initiation of the Function, such as prior state of the actors and activities

Identify any assumptions, such as what systems already exist, what contractual relations exist, and what configurations of systems are probably in place

Identify any initial states of information exchanged in the steps in the next section. For example, if a purchase order is exchanged in an activity, its precondition to the activity might be 'filled in but unapproved'.

<i>Actor/System/Information/Contract</i>	<i>Preconditions or Assumptions</i>

2.1.2 Steps – Normal Sequence

Describe the normal sequence of events, focusing on steps that identify new types of information or new information exchanges or new interface issues to address. Should the sequence require detailed steps that are also used by other functions, consider creating a new “sub” function, then referring to that “subroutine” in this function. Remember that the focus should be less on the algorithms of the applications and more on the interactions and information flows between “entities”, e.g. people, systems, applications, data bases, etc. There should be a direct link between the narrative and these steps.

The numbering of the sequence steps conveys the order and concurrency and iteration of the steps occur. Using a Dewey Decimal scheme, each level of nested procedure call is separated by a dot ‘.’. Within a level, the sequence number comprises an optional letter and an integer number. The letter specifies a concurrent sequence within the next higher level; all letter sequences are concurrent with other letter sequences. The number specifies the sequencing of messages in a given letter sequence. The absence of a letter is treated as a default ‘main sequence’ in parallel with the lettered sequences.

Sequence 1:

*1.1 - Do step 1
1.2A.1 - In parallel to activity 2 B do step 1
1.2A.2 - In parallel to activity 2 B do step 2
1.2B.1 - In parallel to activity 2 A do step 1
1.2B.2 - In parallel to activity 2 A do step 2
1.3 - Do step 3
1.3.1 - nested step 3.1
1.3.2 - nested step 3.2*

Sequence 2:

*2.1 - Do step 1
2.2 - Do step 2*

#	Event	Primary Actor	Name of Process/Activity	Description of Process/Activity	Information Producer	Information Receiver	Name of Info Exchanged	Additional Notes	IECSA Environments
#	<i>Triggering event? Identify the name of the event.²</i>	<i>What other actors are primarily responsible for the Process/Activity? Actors are defined in section0.</i>	<i>Label that would appear in a process diagram. Use action verbs when naming activity.</i>	<i>Describe the actions that take place in active and present tense. The step should be a descriptive noun/verb phrase that portrays an outline summary of the step. "If ...Then...Else" scenarios can be captured as multiple Actions or as separate steps.</i>	<i>What other actors are primarily responsible for Producing the information? Actors are defined in section0.</i>	<i>What other actors are primarily responsible for Receiving the information? Actors are defined in section0. (Note – May leave blank if same as Primary Actor)</i>	<i>Name of the information object. Information objects are defined in section 1.6</i>	<i>Elaborate architectural issues using attached spreadsheet. Use this column to elaborate details that aren't captured in the spreadsheet.</i>	<i>Reference the applicable IECSA Environment containing this data exchange. Only one environment per step.</i>

2.1.3 Steps – Alternative / Exception Sequences

Describe any alternative or exception sequences that may be required that deviate from the normal course of activities. Note instructions are found in previous table.

#	Event	Primary Actor	Name of Process/Activity	Description of Process/Activity	Information Producer	Information Receiver	Name of Info Exchanged	Additional Notes	IECSA Environments

² Note – A triggering event is not necessary if the completion of the prior step – leads to the transition of the following step.

2.1.4 Post-conditions and Significant Results

Describe conditions that must exist at the conclusion of the Function. Identify significant items similar to that in the preconditions section.

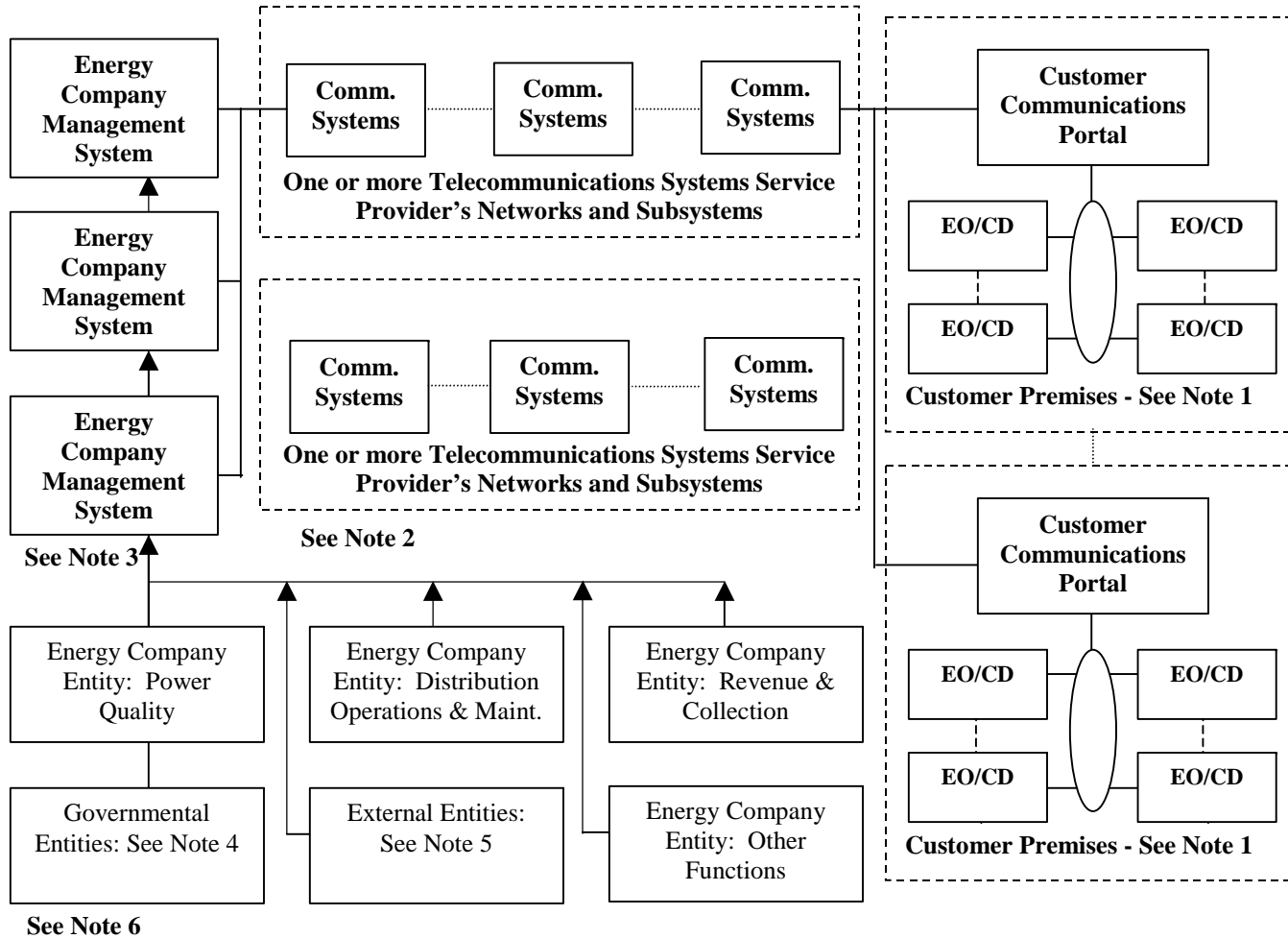
Describe any significant results from the Function

<i>Actor/Activity</i>	<i>Post-conditions Description and Results</i>

2.2 Architectural Issues in Interactions

Elaborate on all architectural issues in each of the steps outlined in each of the sequences above. Reference the Step by number..

2.3 Diagram



Legend:

EO/CD Energy Company Observable/Controllable Devices
(Systems, Hardware, Software, Applications, etc.)

Notes:

1. EO/CD's may be interconnected to the Customer Communications Portal by various LANs or wired/wireless systems
2. Many diverse Telecommunications Access Networks may be used to connect to Portals
3. Several different Energy Management Systems may be required including an overall "System Manager" (that deals with overall policies, views of various business entities, etc.) a Security Management System (that deals with authorization, security, reporting and related issues) and a Network Management System (that deals with the Customer Portal Access Networks and data communications issues)
4. Several Governmental Entities will need to access certain information that will be obtained via the Customer Communications Portals. Some of these are: PUC's, FERC, FTC, FCC, FBI, DHS, NIST, various State and Local Governmental Agencies, etc.
5. Several Entities outside of the Energy Companies will need to access certain information that will be obtained via the Customer Communications Portals. Some of these are: ISO, RTO, Independent Power Generators, various appliance manufacturers, etc
6. All of the Entities shown in the boxes are routed through the various Key Management Systems. This is meant to signify that the policies, procedures, access control rights, security and other enablers and constraints of these Management Systems will tailor the views of the data that these entities can access and the control messages that they are authorized to initiate. This does not imply that there will actually be individual computer/software systems that these entities must be routed through. The diagram represents a logical view , not a physical view.

3 Auxiliary Issues

3.1 References and contacts

Documents and individuals or organizations used as background to the function described; other functions referenced by this function, or acting as "sub" functions; or other documentation that clarifies the requirements or activities described. All prior work (intellectual property of the company or individual) or proprietary (non-publicly available) work must be so noted.

ID	Title or contact	Reference or contact information
[1]		

[2]		
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3.2 Action Item List

As the function is developed, identify issues that still need clarification, resolution, or other notice taken of them. This can act as an Action Item list.

ID	Description	Status
[1]		
[2]		

3.3 Revision History

For reference and tracking purposes, indicate who worked on describing this function, and what aspect they undertook.

No	Date	Author	Description
0.			