3.3 Roles, Resources and Interactions

There are many deployments possible, including many not described here. The Committee has striven to make Energy Interoperation agnostic about business processes or business relationships.

3.3.1 Choosing a Role

An application finds, discovers, or is configured to use a particular Registrar. By using the EiREgisterParty service, that application obtains a PartyID. With that PartyID, the application can implement and interact using the Party Role in the Transactive Services.

One interaction a Party may participate in is Enrollment. An application may, when it has a PartyID and is identified, Enroll. There are a number of Enrollee Types, reflecting different business roles and enrollments, which are out of scope for this specification—only the names are defined. AN exception is the Resource which extends the EMIX Resource Description Type.

The information required for Enrollment varies across Enroll Administrators. For example in North American wholesale markets, each ISO may potentially require different information or documentation than another. Since that information is out of scope, a deployment or profile would specify what information is required, and convey that information in an extension of the Enrollee types.

Once Enrolled, a Party may have other capabilities, the definition and description of which is also out of scope. The service operations supported are listed in Section 8 *"Enroll Service".*

The operations for Party Registration and Enrollment are designed, as are all other operations and data types, to be both extensible and evolvable over time to add new or extended functionality to future versions of Energy Interoperation, or by extension of information definitions in specific profiles.

3.3.2 The relationship between Actors and Resources

There is no definitive way to classify an actor, or a set of capabilities, as an Actor or a Resource. A VEN that is also a VTN may bundle the VENS its interacts with to offer as Resources. In another business model, that VEN may interact with its internal partners through transactive services. Different business structures will drive different technical deployments.

First, an actor, representing application code, may assume the Virtual End Node (VEN) role. The same application code may also support the Virtual Top Node (VTN) role. This is how the graph of VTNs and VENs in Figure 3-5 is constructed. In that figure, actor G implements the role of VEN with respect to actor ;B, and the role of VTN with respect to actors I, J, and L.

A Party interacts in transactive environments; the distinction is that a market may have many relationships. While it might seem attractive to make the actor that interacts with a market take on the VEN role (with the market taking on the VTN role), this is too restrictive. An actor offer, view, and transact regardless of the VEN/VTN relationships that it maintains--and so the transactive interfaces use Party and CounterParty.

In a deployment one must make decisions about how the roles are selected, discovered, or assigned; this is out of scope of this specification.

In contrast, a Resource is treated as a thing, rather than an Actor. A resource does not participate in relationships such as the actor/application interfaces in the figure. It could be tempting to require that a Resource is related to (or possibly "managed by") exactly one actor, a VEN in the Energy Interoperation architecture. It could seem clearest to assert a one-to-one relation between this VEN and the Resource. This would allow requests, reports, and other interactions to and from a single VEN which is uniquely related to that Resource.

But other business cases would be simpler with potentially many Resources managed by a single VEN. In a transactive environment, that VEN may offer capabilities of its individual or groups of Resources to a market (as a Party), and without requiring the defined structure of collaborating VENs and VTNs.

For example, a distributed application conforming to this specification MIGHT deploy in one of the following ways;

(a) assign a single actor presenting the VEN role to each floor of a building, and a VTN related to them. For external interactions, that VTN for the building would present the VEN interface to receive and interact with the Energy Interoperation Services, and could present the Party role to tender, buy, and sell in a market,
(b) assign a single actor presenting the VEN role to the building controller, and use other services to manage or convey information to the floor controllers
(c) assign a single actor presenting the VEN role at the building controller, have that same actor present the VTN role to the individual floor controllers. The floor controllers present the VEN role to the building controller, while presenting the VTN role to its devices, each of which presents the VEN role to the floor controller.

Were this specification to require exactly one Resource to one VEN, these deployments would not be possible.