

RM – ODP TO EXPRESS NUCLEAR LICENSING

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The scope of CNEN (Comissão Nacional de Energia Nuclear) is established by standards and procedures, which allow one context where several activities for nuclear licensing are realized by persons, machines and other entities of real world and by software systems. The CNEN objectives for licensing nuclear installations can be specified and they define how the systems are consisted, its nature, and which important elements were considered relevant for its constitution. The behavior, where the software will be operated, was likely defined in this paper through all aspects of its business process, which means from its licensing context.

The concepts and definition showed here defined one specific business domain, through ODP context. The functionalities of nuclear licensing process, the relationship scope and the rules of interaction that contributed for to specify the nuclear licensing process were defined, too. Therefore, the definition of the domain follows the orientation of architecture concepts and allows to implement the reflection model, where, with the auxiliary from IDEF0 (Integration Definition for Function Modeling) diagrams, the interactions between external domains were mapped.

The figure 1 shows one example of the specification model of enterprise view point in ODP [1]. The model of figure 1 is one general model for the associations and relationships of CNEN community. Therefore, the requirements community of construction licensing or operational authorization of nuclear installation have one dependency relationship with the DRS (Diretoria de Radioproteção e Segurança da CNEN), its means, show one dependency between the following associations: [agente_requerente_cnem] and [agente_diretor_cnem]. The community [cnem.drs] has dependency with their communities that were defined as [cnem.drs.cglc] and [cnem.drs.cglc.codre] representing the communities from general coordination of licensing and reactors.

The community [cglc.codre] is part of the community [cnem.drs] and established relationship type association between the communities of technical [agente_tecnico_cnem], inspectors [agente_inspetor_cnem] and auditors [agente_auditor_cnem], which are communities from CNEN community.

The community [cglc.codre] realized one internal interface from community [cnem], which is identified as licensing agent from installation [IAgente_licenciamento_instalacao_cnem]. The external interfaces are established with the following agents [2]:

- Requirers of construction licensing or operational authorization from installation: Interface [IRequerente_cnem];
- System responsible: Interface [IResponsavel_sistema_cnem];
- Mean contractor: Interface [IContratado_principal_cnem]; and
- Supervisor: [ISupervisor_independente_cnem].

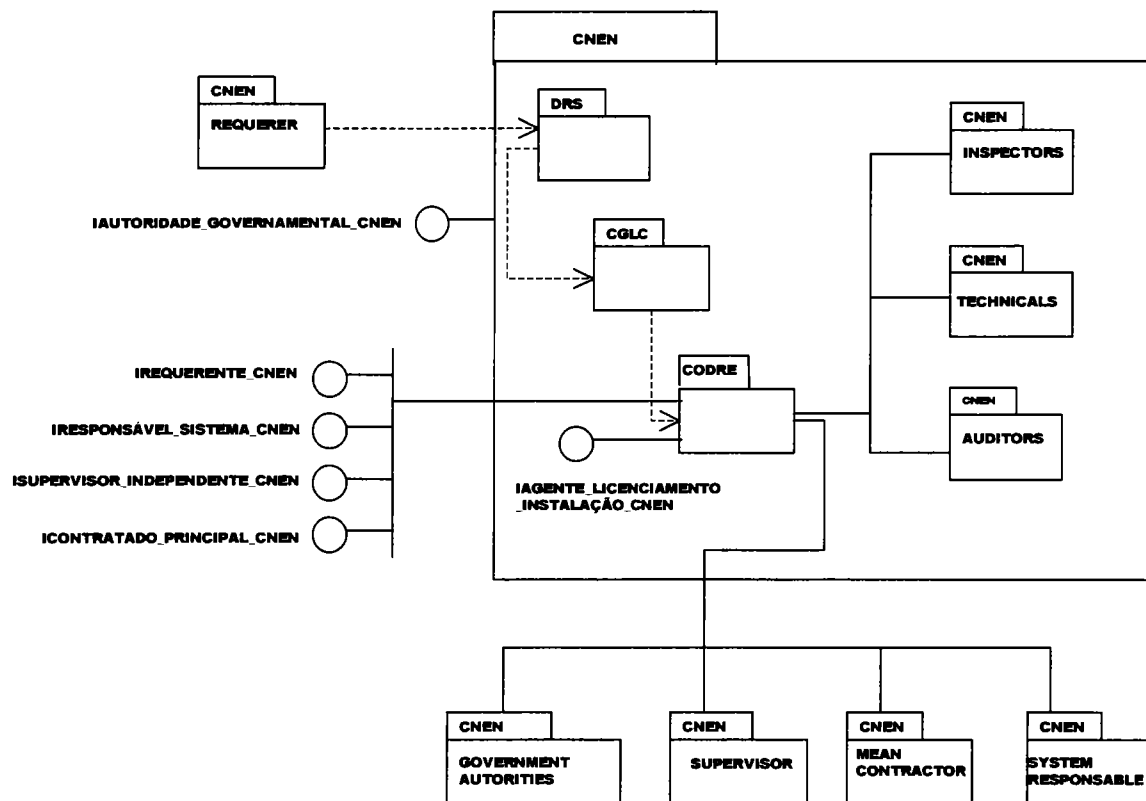


Figure 1 Association of CNEN community – [cnen]

The RM-ODP makes the communication easy with the final users and with all others entities involved in systems development. The necessities of one defined domain are conducted to ODP elements and represented in their enterprises view point specification. The system architect uses those concepts, relationships specification and others defined concepts to develop one open specifications, which uses well defined languages of distributed processing for establish the exactly communication between entities belongs to CNEN community[3].

REFERENCES

- [1] PUTMAN, J.R., “Architecting with RM-ODP”, Prentice Hall, Inc, 2000.
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- [3] AEGEDAL, J.O., “Modeling Virtual Enterprises and Character of their Interactions”, IEEE – 1999.