

**TITLE:** A Critical Comparison of Approaches to Resource Name Management within the IEC Common Information Model

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This presentation is based on a paper by the same title co-authored with Alex Carter of National Grid Electricity Operations, UK, and Gareth Taylor of Brunel University, UK. The paper has been accepted for publication on the IEEE eXplore database subsequent to the 47<sup>th</sup> Universities Power Engineering conference, which was held in September 2012.

**CONTACT (presenter):**

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The presentation to the CIMug will fall into three main parts:

1/ Description of the problem - tracing resource genealogy to a particular power system model and managing name-identity coupling within a model repository scenario:

Electricity network resources are frequently identified within different power systems by inhomogeneous names and identities due to the legacy of their administration by different utility business domains. The IEC 61970 Common Information Model (CIM) enables network modeling to reflect the reality of multiple names for unique network resources. However this issue presents a serious challenge to the integrity of a shared CIM repository that has the task of maintaining a resource manifest, linking network resources to master identities, when unique network resources may have multiple names and identities derived from different power system models and other power system applications. The current approach, using CIM 15, is to manage multiple resource names within a singular CIM namespace utilizing the CIM "IdentifiedObject" and "Name" classes.

2/ Proposal of an alternative approach:

We propose using additional namespaces relating to different power systems, similar to the practice used in CIM extensions, in order to more clearly identify the genealogy of a network resource. Namespaces would link the merged model elements (significantly the IdentifiedObject classes) to the originating power system, thus preserving the genealogy of the merged classes. For import purposes namespaces could be used to filter the elements of merged models required for the import.

3/ Comparison between existing CIM and proposed approach using namespace filters:

The proposed approach could offer a simpler means of supporting the relationship between multiple resource names and identities and a master resource identity. The possibility of smaller models to describe a given range of network resources, could result in faster import and export times.