WG13 Issues - CIM Issues #6873

Create support for fault and unsolved solution

08/14/2024 09:52 AM - Todd Viegut

Status:	Open		
Priority:	Normal		
Target version:			
Author/Contact Info:	Todd Viegut	**Standard(s):**	IEC 61790-456
Base Release:	CIM18	**Version:**	
Solution to be Applied To:	CIM18	**Clause:**	
Solution Version:		**Sub-Clause:**	
Solution Applied By:		**Paragraph:**	
Completion Date:		**Table:**	
CIM Keywords:		**Originally Closed in Version:**	
Breaking Change:		**Origination Date:**	
Breaking Change Description:		**Origination ID:**	
CIM Impacted Groups:	WG13	**Originally Assigned To:**	
Requestor:			

Description

Today we have a fault model as part of Grid, \\Grid\Base\Faults, but we do not have any 61970-bases profile for exchanging this information. 61968-3 has a XSD based profile for this information. 61970-457 does include the profile SimulationResult (SR), which could be used for ShortCircuit result.

TopologicalNode and TopologicalIsland (including DCTopologicalIsland and DCTopologicalNode) are a specialisation of IdentifiedObject, which make it possible to have them persistent. However, there are no requirement for this. The new classes for StateVariable do not inherit from IdentifiedObject. Today the naming of the TopologicalNode can be made persistent through the use of BusNameMarker. It could be considered to "move" this functionality to TopologicalNode and make the relevant TopologicalNode persistent. This will require that we have a way of creating fault topology – e.g. a line is energized from one of the terminals.

Assume that this is done in today's model by only having one Terminal connected to the TopologicalNode – but it is unclear if applications support this. It makes sense to have a clear way of expressing that we have a fault in the topology.

The use case for the unsolved solution is the scenario where we have multiple islands but for which only a subset was solved for. The above described approach allows us to exchange minimally the solved islands. (Note that the lack of SV should determine that one did not get a solved solution)

State Estimators at times do not solve the case, but still would like to export what has been solved. This is particularly relevant if you have multiple TopologicalIsland-s. Power flow would also have the same needs. As a minimum it should be possible to export all SvInjection. SvPowerFlow might be fully or partly solved without the solution for SvVoltage.

Decision

19-Sep-2024 Joint TF Hybrid Meetings - Minneapolis:
Reviewed. Svein agreed to pick this one up to investigation as part of his work on a proposal for Redmine Issue #6872.

Related issues:

Blocked by WG13 Issues - CIM Issues #6871: Review the existing TP and SV prof...	**In Progress**
Blocked by WG13 Issues - CIM Issues #6872: Make TP easier to compare	**Open**

History

#1 - 08/14/2024 09:53 AM - Todd Viegut

- Blocked by CIM Issues #6871: Review the existing TP and SV profiles to determine a more logical split added

#2 - 08/14/2024 09:53 AM - Todd Viegut

- Blocks CIM Issues #6872: Make TP easier to compare added

#3 - 08/14/2024 09:53 AM - Todd Viegut

- Blocks deleted (CIM Issues #6872: Make TP easier to compare)

#4 - 08/14/2024 09:53 AM - Todd Viegut

- Blocked by CIM Issues #6872: Make TP easier to compare added

#5 - 09/04/2024 10:43 AM - Chavdar Ivanov

- Status changed from New to Open

#6 - 09/19/2024 09:24 AM - Todd Viegut

- Decision updated