



Introduction to EPNodes and CPNodes

MISO current process overview

DERTF

August 30, 2021

Purpose & Key Takeaways



Purpose:

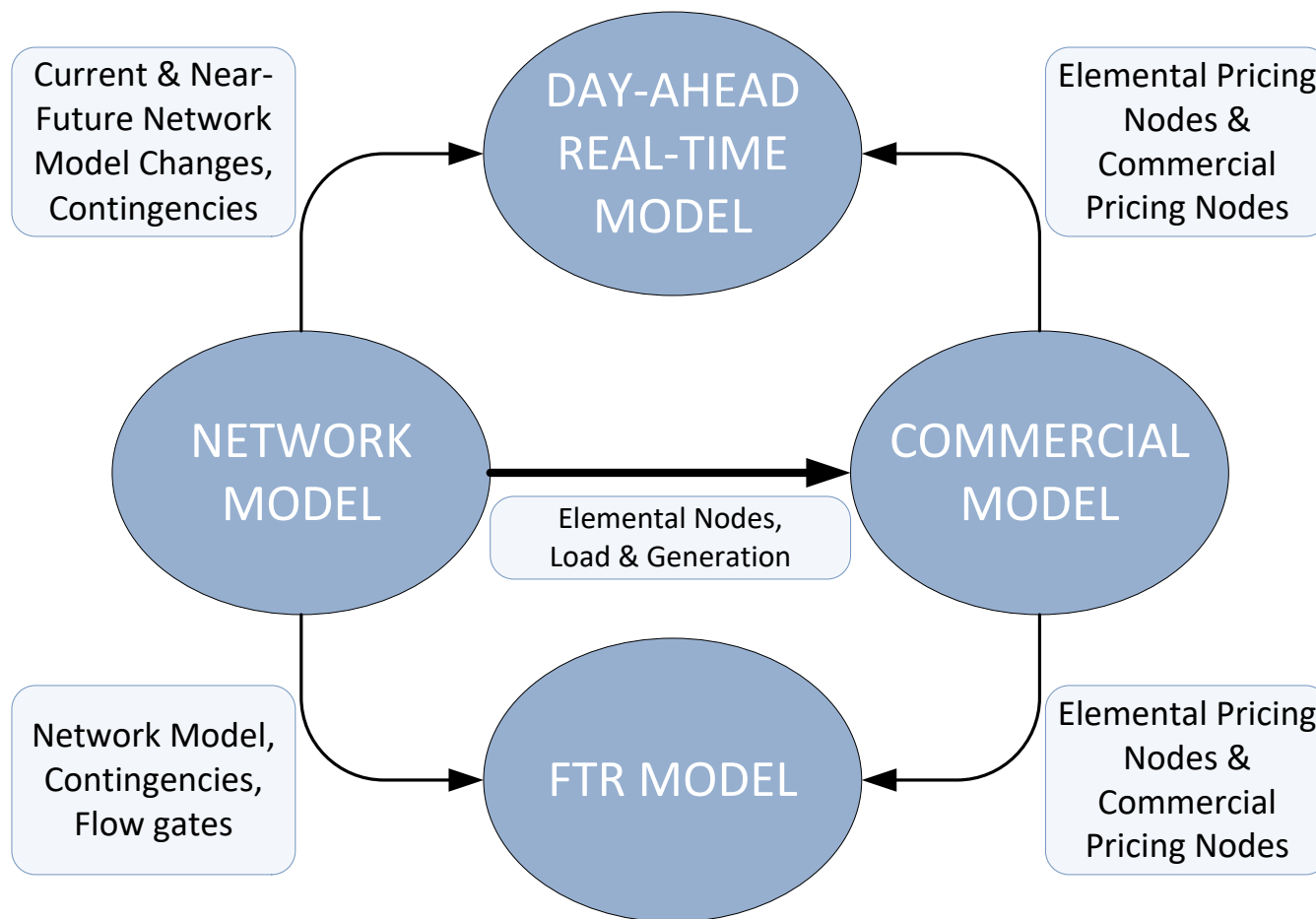
Introduce the Elemental Pricing Node and Commercial Pricing Node designation process

Key Takeaways:

- Elemental Pricing Nodes (EPNode) link the Commercial Model to the physical representation within the Network Model
- Commercial Pricing Nodes (CPNode) are the financial settlement points for the Market Participant
- More information can be found on the MISO Learning Center under Network and Commercial Models.

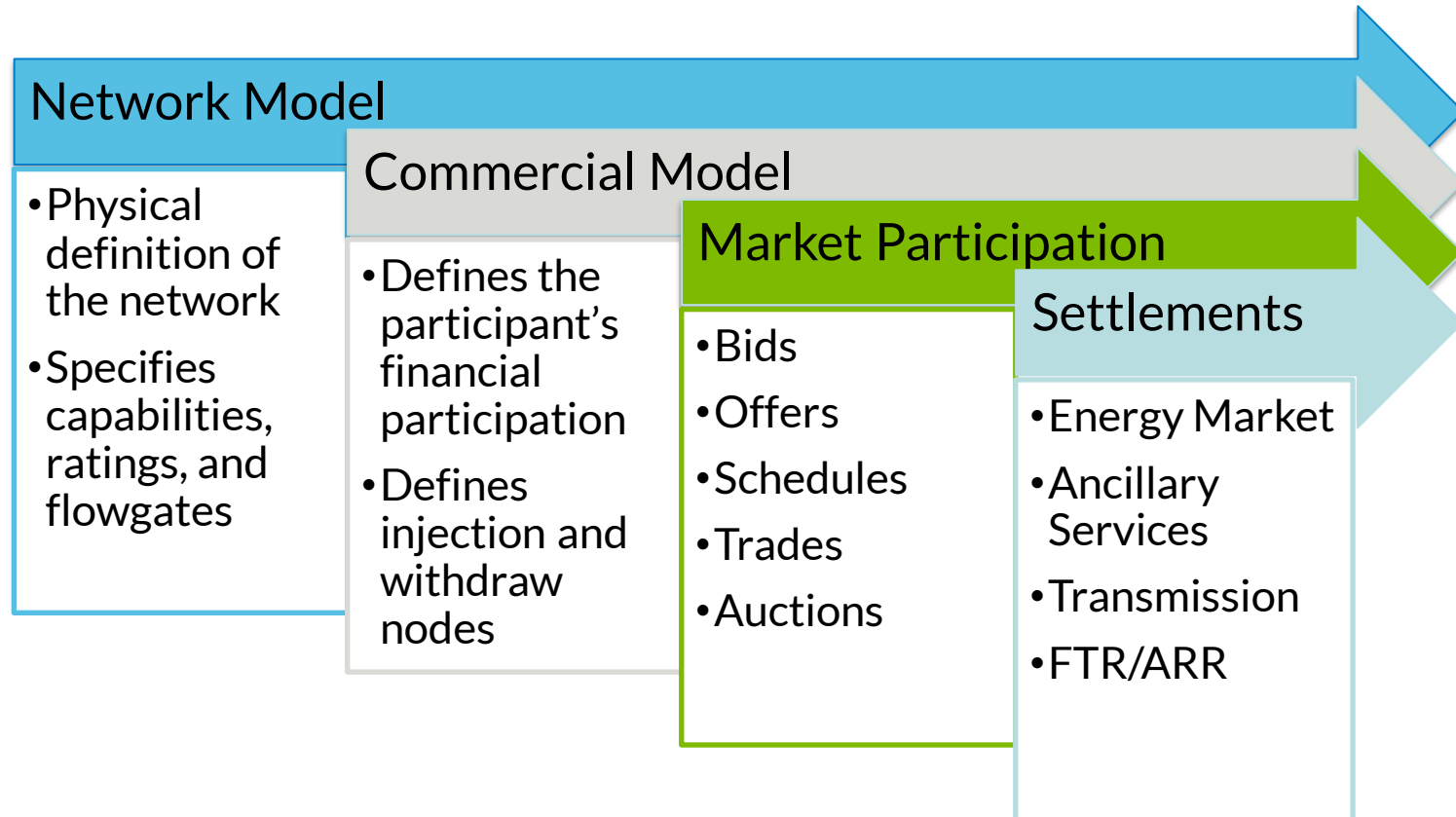
MISO Modeling Relationships

Relationship among Models





Modeling directly influences Business Processes & Financial position



Modeling Resources

Modeling Resources in the Network Model



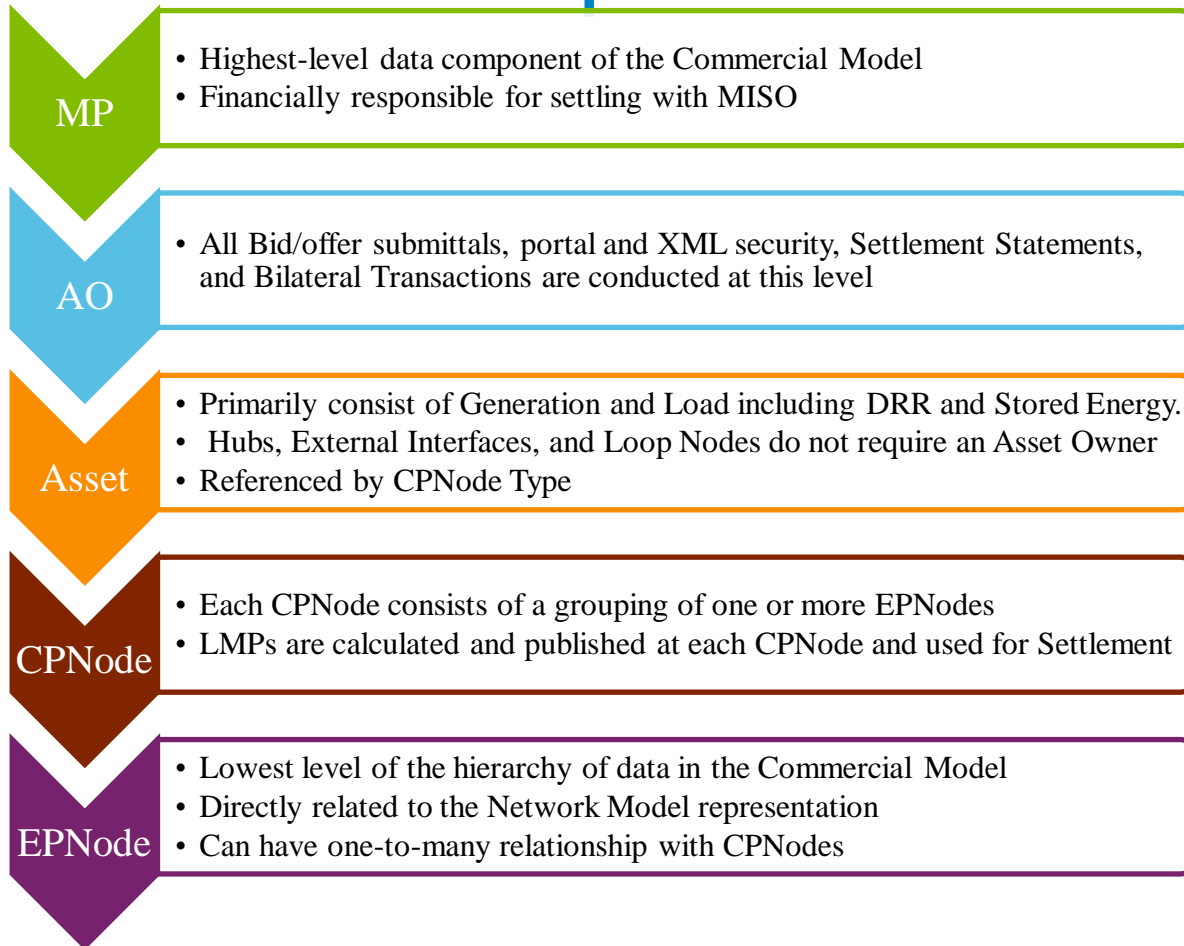
What Must be Modeled?

- Generation, Dispatchable Intermittent Resources (DIRs), DRR-Type II, SERs and EARs **Participating in Energy and Operating Reserve Markets**
- Resources not registered to participate in Energy and Operating Reserve Markets but are connected to the MISO Transmission System

Additional Resource Modeling Scenarios

- Below Threshold Generation
- Modeling of Multiple Small Generating Units at a Single Bus
- Behind-the-Meter Generation
- Modeling of Demand Response Resources – Type I
- Intermittent Resources

Hierarchy of 5 Commercial Model Components



Terms:

- Market Participant (MP)
- Asset Owner (AO)
- Commercial Pricing Node (CPNode)
- Elemental Pricing Node (EPNode)

The relationship of EPNodes and CPNodes determines how the LMP is aggregated for use by Market Settlements

EPNode and CPNode Naming Conventions

CPNode

Types: Generator CPNode, Load Zone CPNode, HUB, or Interface

Started by NERC Registered BA acronym + “.” (dot)

Followed by unique name, total length cannot exceed 14 characters

No special characters in name, except dot “.” and underscore “_”

e.g., CIN.GIBSON_4

EPNode

Types: Generator EPNode, Load EPNode or a Non-injection Non-withdrawal (NINW) EPNode

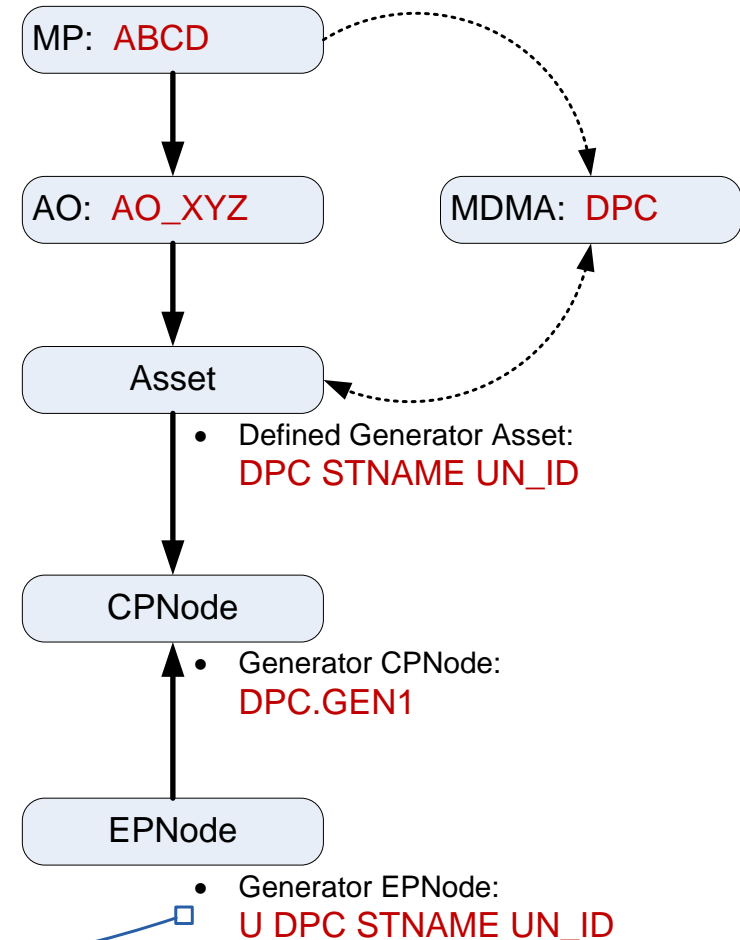
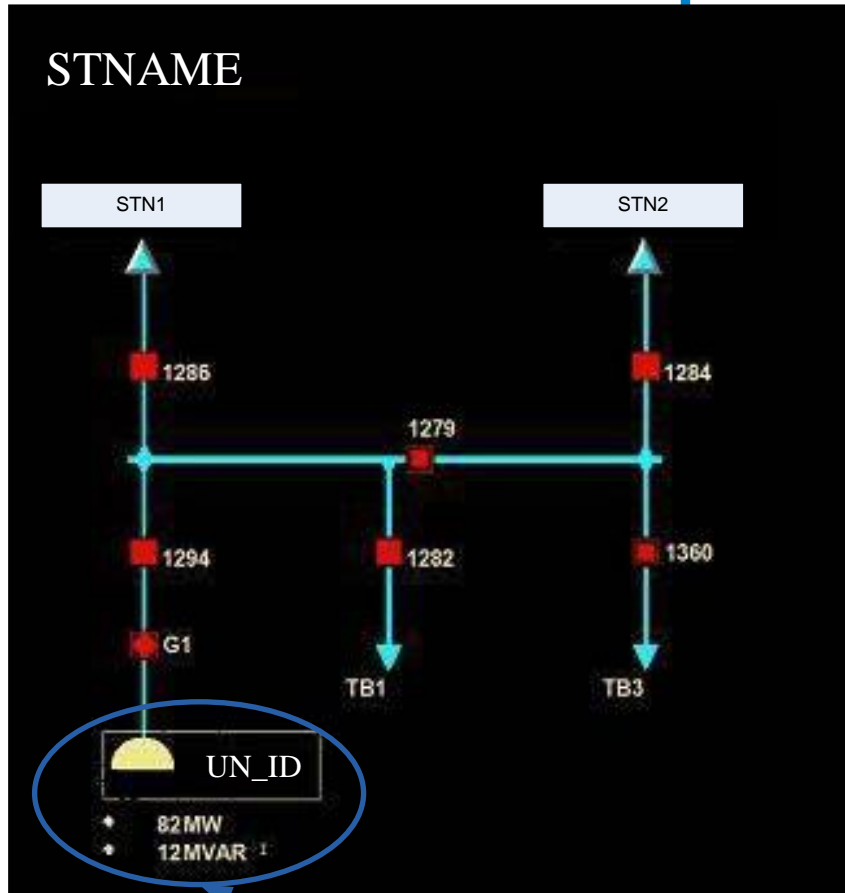
Derived from Network Model

Gen: U+ID_CO+ID_ST+ID_UN
e.g., U CIN NOBLESVI UNI

Load: L+ID_CO+ID_ST+ID_LD
e.g., L CIN NOBLESVI LD1

NINW: N+ID_CO+ID_ST+ID_ND
e.g., N CIN NOBLESVI ABC

Linking Network and Commercial representation





Submitting Information

Network Model Changes

- Transmission Owner
- MISO Network Model Web Tool.*

*Data requirements and “How To” guide are provided in the MISO Network Model Data Modification Web Tool document.

Commercial Model Changes

- Market Participant
- Submitted via Attachment B of MP Registration.†

† MISO provides MS Excel templates for submitting commercial model updates.

MISO Model Update Process

MISO Model Manager will become the new tool to submit Network and Commercial information in 2022.



Additional Resources

MISO Learning Center – Customer Training/Modeling

- [Level 100 Network and Commercial Model](#)
- [Level 200 Network and Commercial Model](#)