

Market Design Concept for DSASP Aggregations

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Agenda

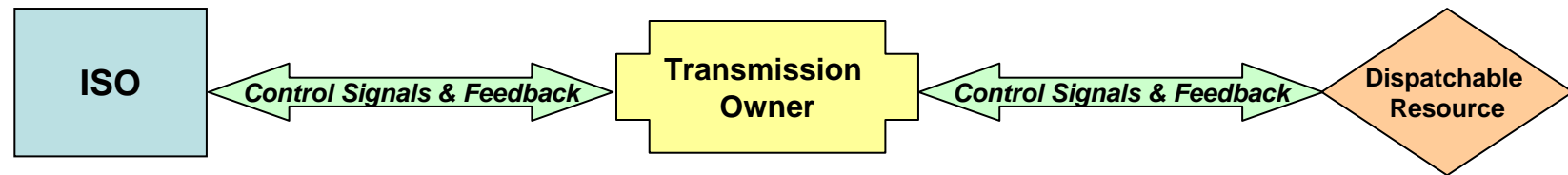
- ◆ **Review**
- ◆ **Communication Paths for DSASP**
- ◆ **Direct Communications for DSASP Concept**
- ◆ **Dependency between DSASP Aggregations and Direct Communications for DSASP**
- ◆ **Market Concepts for DSASP Aggregations**
 - *Communications and Measurement*
 - *Resource Registration*
 - *Other*
- ◆ **Next Steps**

Review

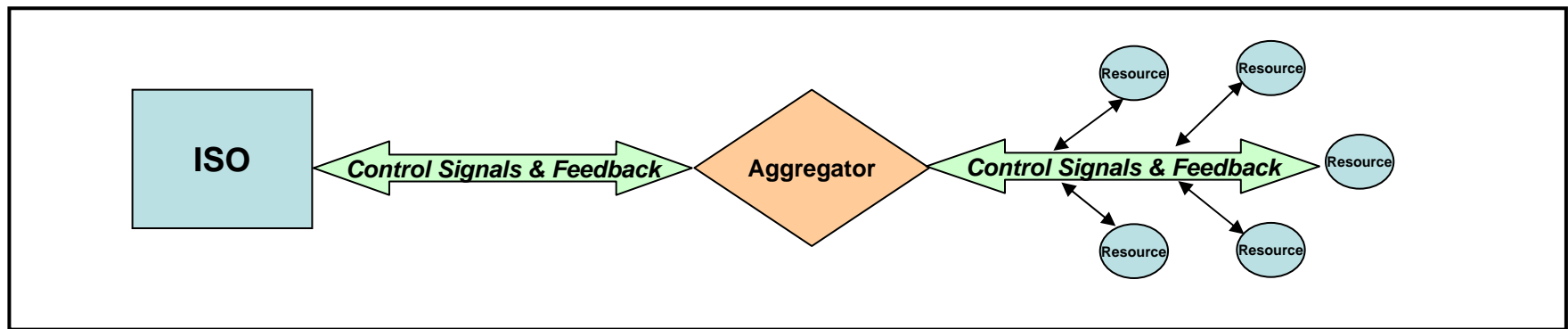
- ◆ **DSASP Workshop in May discussed direct communication for DSASP**
- ◆ **Direct communication for DSASP will facilitate the participation of aggregations**
 - ***Simplifies implementation***
 - Standardized requirements
 - Composite signal to/from aggregator
 - Aggregator coordinates and measures response of resources
 - ***Practical approach for aggregators with resources in multiple zones***
 - Current approach for DSASP would require aggregators to integrate with multiple Transmission Owners

Communication Paths for DSASP

Current DSASP implementation



- Current communication path from NYISO to Transmission Owner to DSASP resource
- Direct communication path from NYISO to Aggregator
 - Aggregator manages communication with resources, collects response of the aggregation



Direct Communications for DSASP Concept

- ◆ **NYISO sends dispatch instructions via ICCP to the DSASP aggregator**
- ◆ **The DSASP aggregator sends response directly to the NYISO**
- ◆ **NYISO updates the Transmission Owner on each update/scan cycle**
- ◆ **NYISO will work with Transmission Owners to develop consistent approach for receipt of signal from NYISO to Transmission Owners for demand response resources using Direct Communication for DSASP**

DSASP Aggregations and Direct Communication for DSASP

- ◆ **Participation of DSASP Aggregations is linked to implementation of direct communication for DSASP**
 - *Approach: Parallel paths for implementing DSASP Aggregations and specifying functional requirements for Direct Communication for DSASP*
- ◆ **Direct Communication requirements to address:**
 - *Requirements for level of communication redundancy*
 - *Requirements for measurement and verification (M&V)*
 - *NYISO real-time communication with Transmission Owners regarding level of demand response providing reserves*
 - *Procedures for Interim Control Operations*
- ◆ **Tariff, manual and other documentation changes to include aggregations**

Market Concepts for DSASP Aggregations

Communications and Measurement

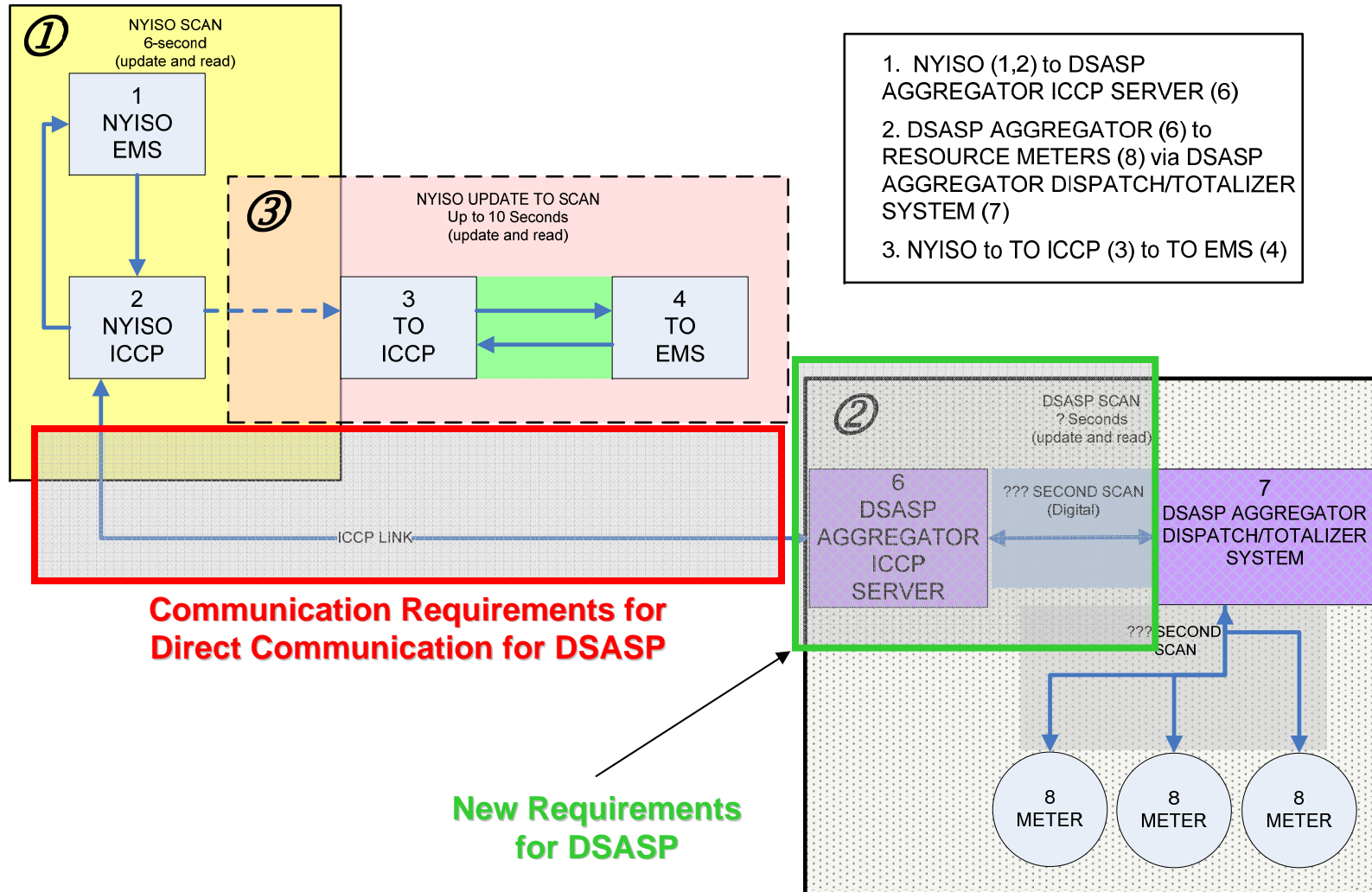
◆ **Communications:**

- *Direct two-way real-time communication between the NYISO and the aggregator via ICCP*
- *Requirements for level of communication redundancy*

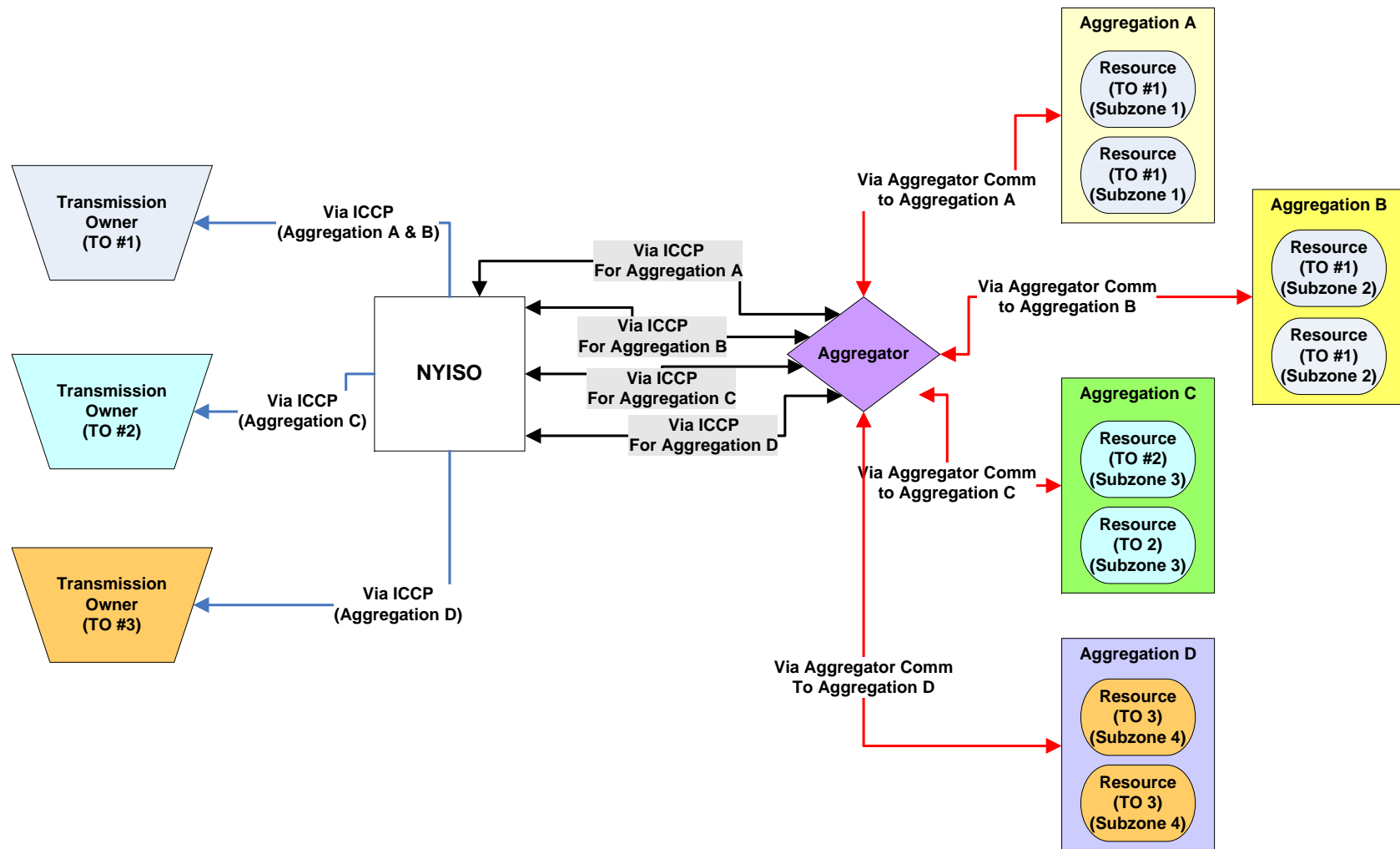
◆ **Measurement:**

- *Measurement requirements between aggregator and resources in an aggregation for two-way signals to the NYISO*
 - **Such as sampling rate (synchronous or asynchronous polling) and totalization**
- *Latency and other measurement and response requirements to be specified*

Sample Direct Communication Path for DSASP Aggregation



Proposed Direct Communication Flow for DSASP Aggregations



Market Concepts for DSASP Aggregations

Resource Registration

- ◆ **Aggregations must contain resources within the same sub-zone**
 - *Grouped by Transmission Owner within a load zone*
 - Feedback loop from NYISO to Transmission Owner must identify amount of reserves from demand response
- ◆ **Changes to DSASP aggregations must be reported to Customer Relations Department via updated DSASP registration packet**
 - *To identify whether a change is required to the operating limits of the DSASP resource*
 - *To identify the resources in the aggregation to prevent duplicate enrollments in DSASP aggregations*

Market Concepts for DSASP Aggregations - Implementation *Tariff, Manuals, Procedures, and Software*

- ◆ **Review Tariff**
 - *Specific DSASP references related to types of resources and communication with DSASP resources*
- ◆ **Manual changes**
 - *Ancillary Services Manual*
 - Requirements for prequalification and ability for NYISO Operations to audit that apply to single DSASP resources would also apply to aggregations
- ◆ **Procedures**
 - *Direct Communication Procedures*
 - *Any procedures involving DSASP resource registration, including requirements for DRIS*
- ◆ **Software**
 - *Assessment of potential changes to NYISO systems to support DSASP aggregations*

Market Concepts for DSASP

Aggregations

Other

- ◆ **DSASP resources (single or aggregations) still have the option to connect through the Transmission Owner**
 - *Transmission Owner requirements would apply for communication and measurement*
- ◆ **NYISO to evaluate the need for locational limits on the amount of Operating Reserves from aggregations**

Next Steps – DSASP Aggregations

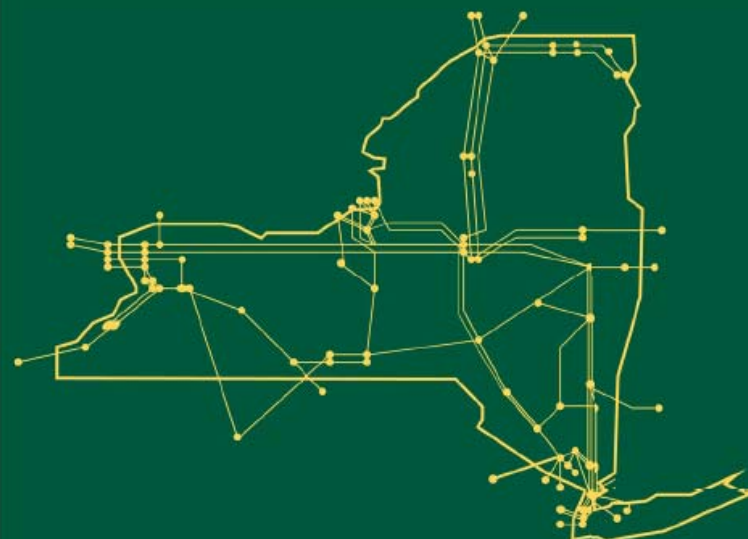
- ◆ **Market Concept presentations to MIWG (Dec. 6) and BIC (Dec. 8)**
- ◆ **Engage other working groups: OC, SOAS, CDAS**
- ◆ **First Quarter 2011: Develop market rules and procedures for DSASP Aggregations**
 - *Evaluate the need for locational limits on Operating Reserves from aggregations*
 - *Develop procedures for registration of DSASP aggregations*
 - *Prepare and review any revisions to tariff language, manuals, and procedures*
 - *Identify any software implementation requirements*
- ◆ **Second Quarter 2011:**
 - *Development*
- ◆ **Third Quarter 2011**
 - *DSASP Aggregations: Deployment*

Next Steps

Direct Communications for DSASP

- ◆ **Engage other working groups: OC, SOAS, CDAS**
- ◆ **Second Quarter 2011: Develop requirements for Direct Communications for DSASP**
 - *Work with SOAS to specify requirements for Interim Control Operations for DSASP resources*
 - *Aggregator's communication to resources in a DSASP aggregation:*
 - Develop requirements for performance characteristics of measurement equipment
 - Develop procedures for evaluation and approval of measurement
 - *Prepare and review any revisions to manuals, and procedures*
- ◆ **Third Quarter 2011**
 - *DSASP Communication: Functional Requirements*

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