



California ISO

Intertie Schedule Modeling Evolution on CAISO Balancing Area Interties – Stakeholder Workshop

April 27, 2026

Housekeeping



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Please engage in a respectful and professional manner. Introduce yourself and your organization when speaking. Follow the facilitator's guidance for speaking or asking questions.



Please keep comments brief and avoid repeating points already made to ensure everyone has an opportunity to participate in a robust discussion.



You can access Closed Captioning and the Transparency Viewer using the controls located at the bottom of the Webex screen.

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You may also send questions via chat to all panelists.

If you need technical assistance during the meeting, please send a chat to the event producer, Intellor Events.

Agenda

Time	Topic	Presenter
1:00 – 1:05 PM	Welcome	Christina Guimera
1:05 – 1:15 PM	Meeting objectives and introduction	Milos Bosanac
1:15 – 1:30 PM	Stakeholder Comments Overview	Milos Bosanac
1:30 – 1:45 PM	Issue Areas to Address	Milos Bosanac
1:45 – 2:00 PM	Benchmarking – Intertie Schedule Modeling Practices of RTOs/ISOs	Milos Bosanac
2:00 – 3:45 PM	RA Imports into the CAISO Balancing Area under a GAP-Tie Modeling Design	George Angelides
3:45 – 4:00 PM	Next Steps	Christina Guimera

Goals of today's *Intertie Schedule Modeling Enhancements* workshops

- Review stakeholder comments from prior workshop
- Identify key issues to consider and address as we evaluate changes in intertie schedule modeling for CAISO interties
- Share benchmarking of practices for intertie schedule modeling of other RTOs/ISOs
- Discuss effects of GAP-Tie modeling on RA import transactions into the CAISO balancing area and identify issues to address

Intertie Schedule Modeling – *Transitional* Design on CAISO Interties

- As part of the *EDAM implementation workshops*, the ISO committed to retaining the existing intertie schedule modeling design on the CAISO balancing area interties on a *transitional* basis.
 - Retention of Schedule Point Tie (SP-Tie) modeling
- The ISO committed to work with stakeholders to evaluate an orderly transition to a more accurate modeling design for intertie transactions on the CAISO balancing area interties.
 - Consideration of transition to Generation Aggregation Point-Tie (GAP-Tie) modeling on interties
 - Allow time for consideration of potential impacts to commercial arrangements

Transitional design for modeling CAISO balancing area intertie schedules

- In EDAM, intertie schedules on CAISO balancing area interties will continue to be modeled under the SP-Tie modeling design on a *transitional* basis.
- Market participants will continue to submit intertie transactions at CAISO interties with non-EDAM balancing areas as they do today.
- On EDAM internal interties – between the CAISO and another EDAM balancing area – import intertie transactions will continue to be supported under the SP-Tie model.
 - Limited to resource adequacy and RPS contract import transactions where source is unknown or otherwise outside of the EDAM footprint
- The transitional design for intertie schedule modeling on CAISO balancing area interties will be in place until replaced with a new modeling design.

Key Elements of the *transitional design* on CAISO interties to address

- *Retention of SP-Tie modeling*
 - Evolve the modeling design of intertie schedules toward a GAP-Tie design considering the various implications on CRRs, RA imports and other aspects of transacting on CAISO balancing area interties
- *Continuing to permit intertie bidding at EDAM internal interties (between CAISO and an EDAM balancing area) in limited circumstances*
 - Retention for RA imports and imports under RPS contracts bidding when source is outside of EDAM area or is unknown
 - Evolve design to move away from direct intertie bidding at EDAM internal interties which support EDAM transfers



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Stakeholder Comments Overview

Stakeholder Comments Overview

- Received 4 sets of stakeholder written comments:
 - Department of Market Monitoring (DMM)
 - The Energy Authority (TEA)
 - Western Power Trading Forum (WPTF)
 - Southern California Edison (SCE)

DMM Comments – Themes

- Supports improvement in congestion modeling resulting from moving to GAP-Tie design.
- Does not support a GAP-Tie modeling design that produces multiple prices at the same intertie.
 - Favors a single GAP per intertie for modeling and pricing
- Notes that it is important to discuss nature of bidding at EDAM internal interties.

TEA Comments - Themes

- Establish discrete initiative page for this initiative.
- Does not support moving away from SP-Tie design for the CAISO balancing area until:
 - Enhancements are made to EDAM congestion revenue allocation, and
 - Day-Ahead Markets have matured in the West to allow for coordinated market to market scheduling and congestion management
- Suggests that for EDAM entity interties the modeling of intertie schedules should move to SP-Tie modeling.

WPTF Comments - Themes

- GAP-Tie modeling can improve the engineered representation of power flows, but still requires assumption about source of day-ahead imports.
- Improved modeling enhances ability to identify congestion and constraints, if this is paired with reduced intertie bidding (or over-reliance on self scheduling), market ability to select least cost resources is diminished.
- Encourages evaluation of intertie modeling changes holistically, considering impacts on economic dispatch, price formation, and market efficiency alongside improvement in modeling accuracy.
- Suggest consideration of more complex and realistic examples for GAP-Tie modeling design, and stand alone page for this initiative.

SCE Comments - Themes

- Request additional information for the calculation of DGAP shift factors.
 - Information on methodology for DGAP shift factor determination
- Requested additional information and clarification regarding power flow formulation and resolution.
- Request publication of the generation distribution factors utilized in defining DGAPs.
- Additional data clarifying questions described in comments.



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Issue Areas to Address

Scoping of issues and elements to consider when shifting to GAP-Tie design

- It is important to consider holistically the implications of evolving the intertie schedule modeling design on CAISO interties.
- The modeling design for intertie schedules will be considered in the broader context of:
 - **modeling of congestion** in relation to the intertie schedules and the effects on market footprint constraints
 - **price formation** since the LMP will be informed by the modeled congestion effects in relation to EDAM footprint constraints
 - **market efficiency** impacts considering phasing out of ability to bid at EDAM internal interties and limited ability to economically bid at external interties of EDAM balancing areas

Topic and issue areas to consider and evaluate

- Stakeholder comments provide insights which help shape initial topic and issue areas to evaluate when considering evolving intertie schedule modeling to a GAP-Tie design on CAISO balancing area interties.
- Issue areas to evaluate on GAP-Tie modeling and its effects:
 - Modeling inputs for GAP-Tie formulation
 - Pricing: single v. multiple prices per GAP-Tie
 - Resource Adequacy (RA) import bidding processes under a GAP-Tie modeling
- Issue areas to consider arising from moving to GAP-Tie modeling:
 - CRR modeling alignment with intertie schedule modeling
 - Phasing out intertie scheduling at CAISO EDAM internal interties
 - Impacts of policy on intertie bidding at EDAM external interties (if cannot bid at EDAM internal interties)



Benchmarking – Inertie Schedule Modeling Practices of RTOs/ISOs

Existing modeling designs for intertie schedules: SP-Tie and GAP-Tie

- ***SP-Tie modeling of intertie schedules***
 - Intertie transactions at scheduling points are modeled as injection (import) or ejection (export) of energy directly at the intertie location
 - Modeling of fictional physical generator at the intertie location to capture the effects on transmission constraints and effects on price formation
 - SP-Tie modeling is in place currently on CAISO balancing area interties
- ***GAP-Tie modeling of intertie schedules***
 - Transactions at intertie locations are modeled as imports or exports sourcing from aggregate physical generation in a neighboring balancing area
 - Modeling considers the effects of the generation (based on generation distribution factors) in the neighboring balancing area to transmission constraints in the market footprint
 - Currently in place at WEIM balancing area interties and will be in effect at EDAM balancing area interties (non-CAISO)

Benchmarking of RTO/ISO Practices

- Modeling practices for import schedules from resources located outside of the RTO/ISO balancing area/market footprint.

	External Resource Modeling (Import)
MISO	External resource modeled in external source balancing area and priced based on weighed average of <u>generation</u> price nodes
PJM	External resource modeled in external source balancing area and priced based on weighed average of <u>load and generation</u> price nodes
SPP	External resource modeled in external source balancing area and priced based on weighed average of <u>load</u> price nodes
ISONE	Import modeled as <i>injection of energy directly at the intertie location</i> and priced based on those congestion effects



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RA Imports into the CAISO Balancing Area under a GAP-Tie Modeling Design



Intertie Schedule Modeling Evolution Initiative

Workshop on

Resource Adequacy Imports with GAP-Tie Model

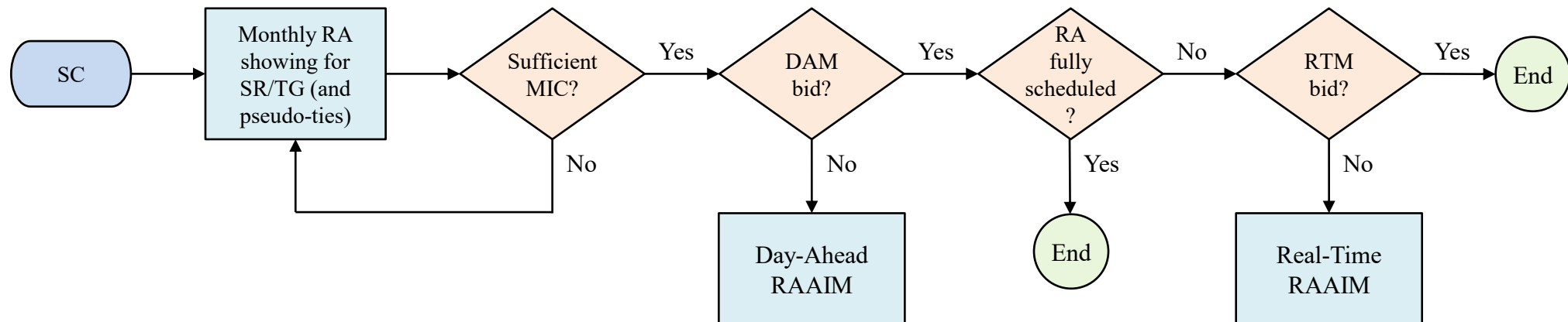
Monday April 27, 2026

Generation Aggregation Point (GAP)

- GAP: an aggregation of supply resources in BAA(s) for distributing intertie schedules for power flow calculations
 - ◆ Default Generation Aggregation Point (DGAP)
 - Used for default non-resource-specific intertie participation
 - It includes all supply resources in a BAA
 - Uses Generation Distribution Factors adopted from the State Estimator solution
 - All intertie schedules will use by default the adjacent BAA DGAP for a given Tie
 - ◆ Exceptions for SCs with specific situations:
 - Non-adjacent BAA DGAP
 - If the SC has rights through the adjacent BAA
 - The adjacent BAA does not require explicit wheel through scheduling in the market
 - Custom Generation Aggregation Point (CGAP)
 - Used for resource-specific intertie participation (TG)
 - It includes specific supply resource(s) in a BAA

Current RA import process

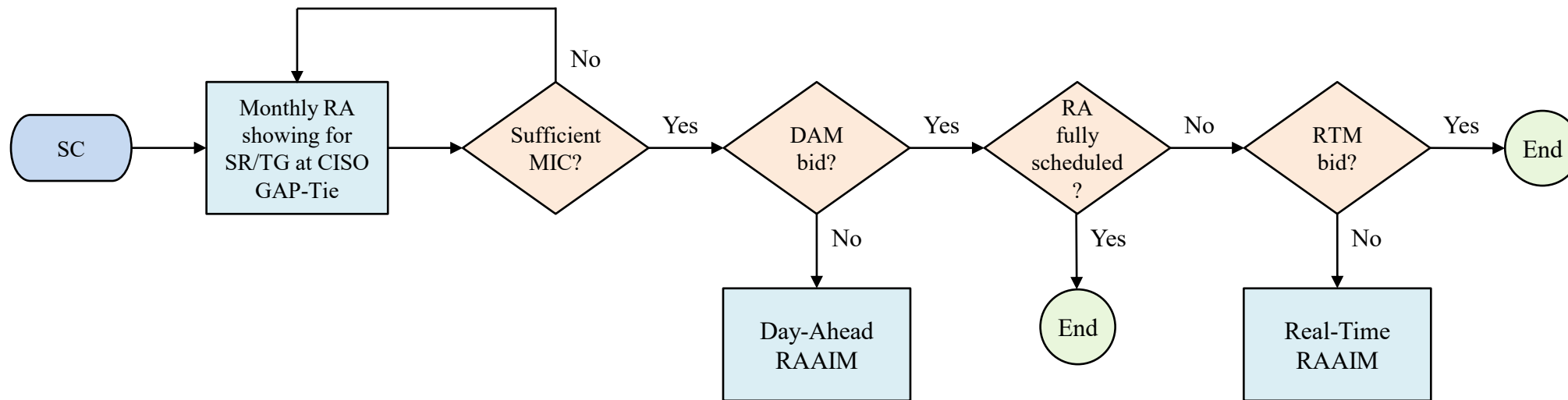
- For monthly RA showings, RA import is shown as:
 - ◆ Non-resource-specific import using a System Resource (SR) for System RA
 - ◆ Resource-specific import using a Tie-Gen (TG) for System/Flexible RA
 - Includes pseudo-ties and dynamic resources
- A SC can show any combination of imports up to the MIC secured by the load serving entity (LSE) at a CISO intertie
- Shown RA imports are required to bid in DAM and RTM to avoid RAAIM penalties



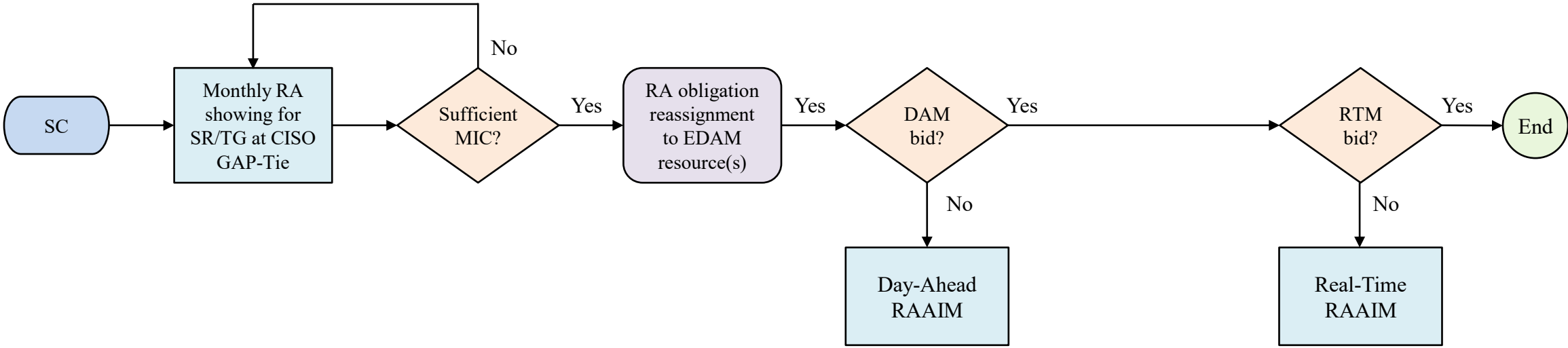
Proposed RA import process in EDAM with GAP-Tie model

- No change for monthly RA showings
 - ◆ CIRA will validate MIC at the CISO intertie of the SR/TG GAP-Tie
- No change if the RA source is in an EIM/non-EIM BAA
 - ◆ SR/TG must bid in DAM/RTM to avoid DA/RT RAAIM penalty
 - ◆ SC must bridge DA/RT schedule before/after HASP
- If the RA source is in EDAM BAA, RA obligation must be reassigned to the relevant EDAM resource(s) before DAM
 - ◆ EDAM resource(s) must bid in DAM/RTM to avoid DA/RT RAAIM penalty
 - ◆ EDAM resource(s) must tag through a RSE-eligible transfer to CISO

RA source in EIM/non-EIM BAA



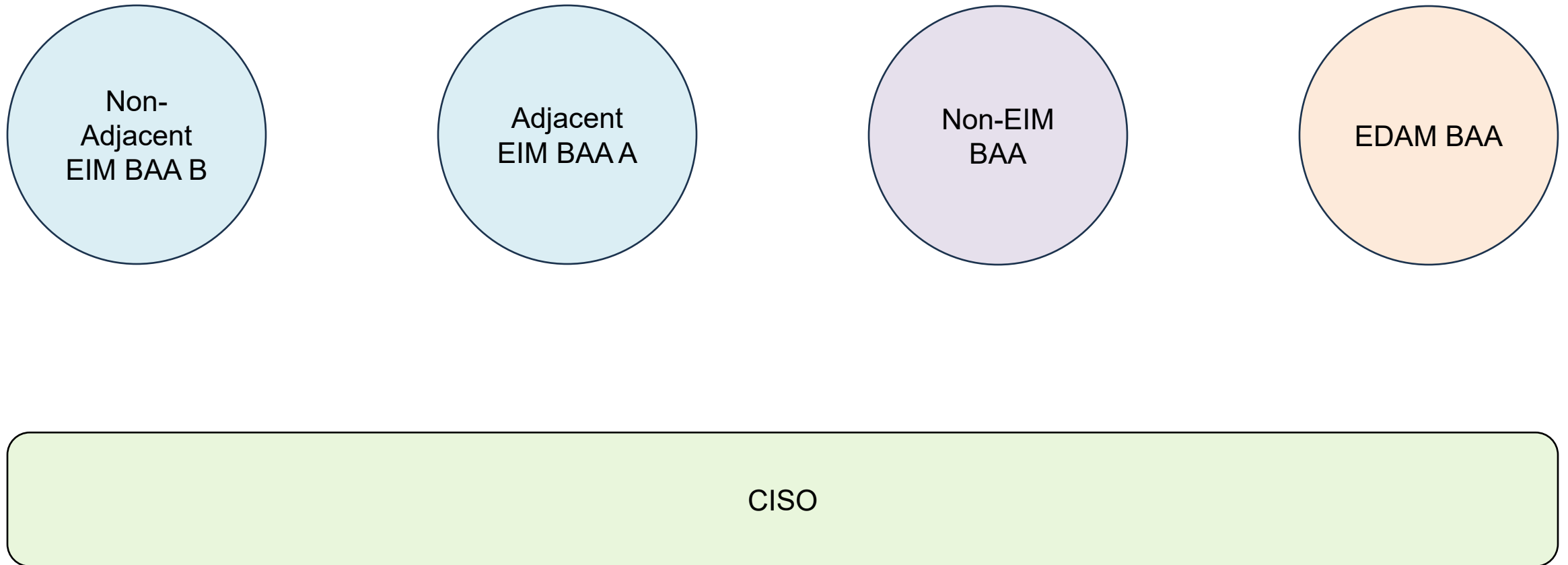
RA source in EDAM BAA



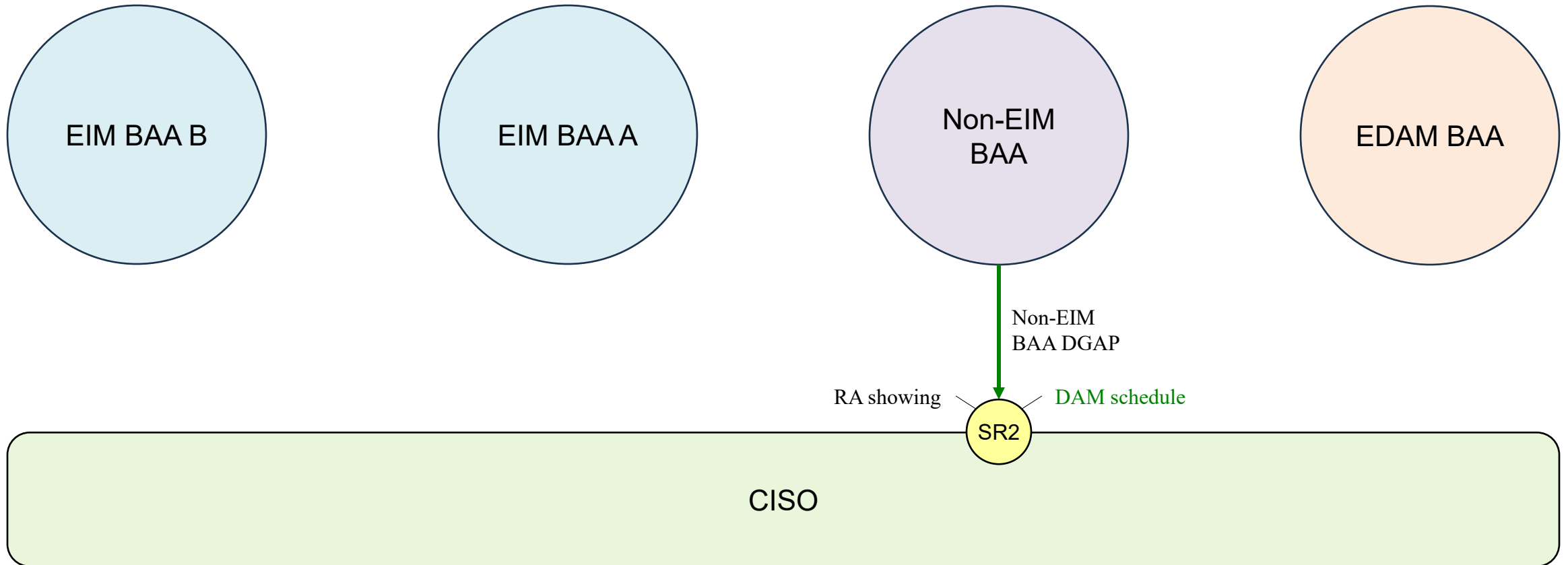
Day-Ahead RA obligation reassignment to EDAM resource(s)

- SC must reassign the RA obligation from the monthly RA showing (SR/TG at CISO GAP-Tie) to the relevant EDAM physical resource(s) by 8:00am before DAM in CIRA
 - ◆ RA obligation reassignment persists for all Trading Days in the month until modified
- EDAM resource SCs may be different, but must approve the reassignment
- EDAM resource SCs must bid the reassigned RA obligation in EDAM to avoid RAAIM penalties

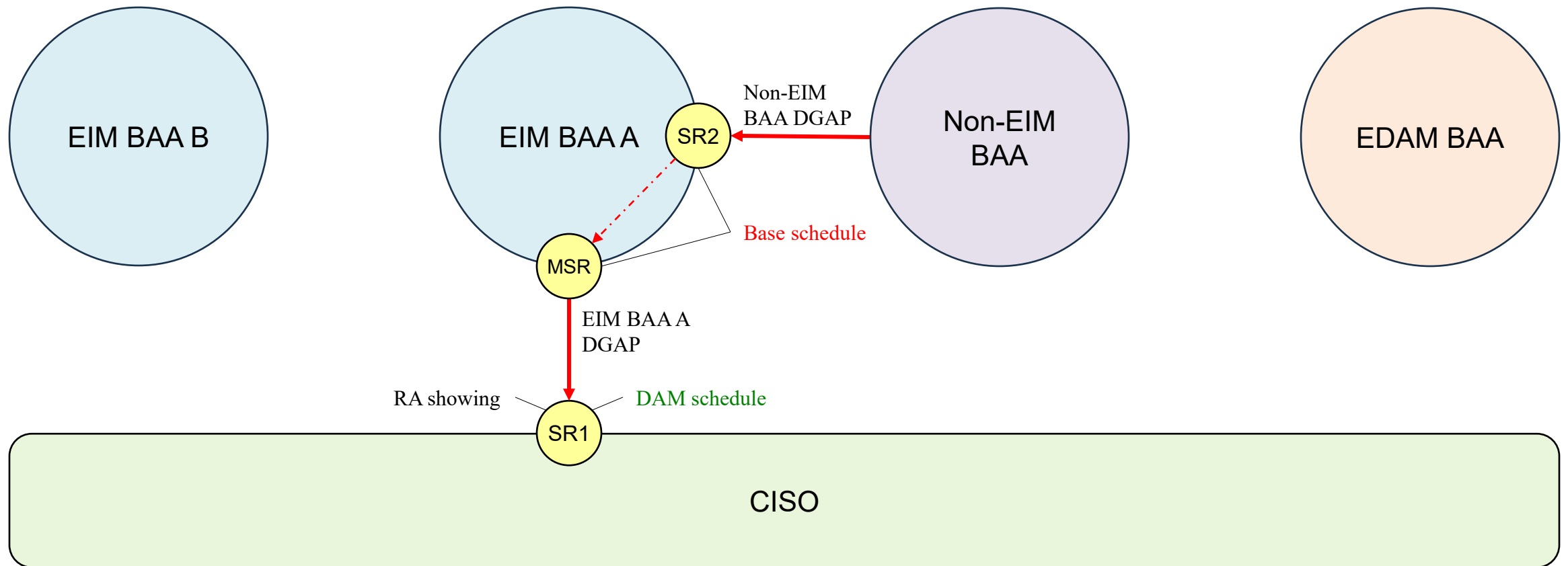
System RA import example: setup



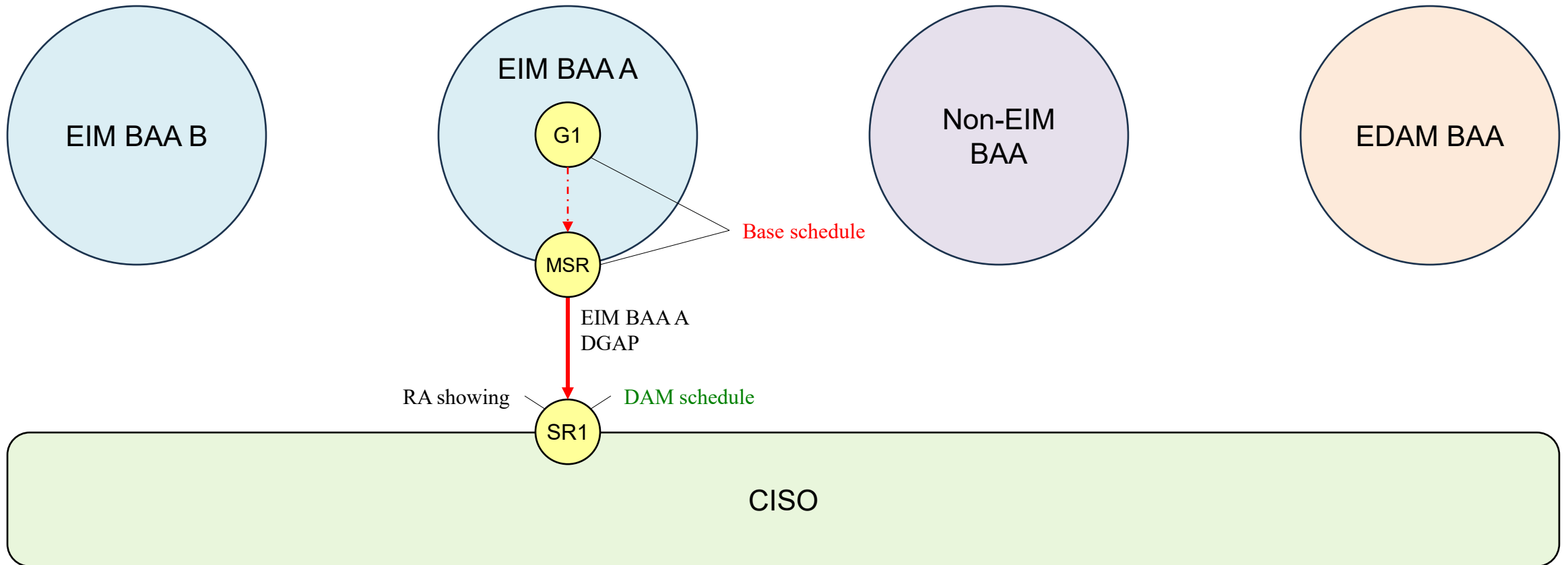
Example: RA source in non-EIM BAA (direct schedule)



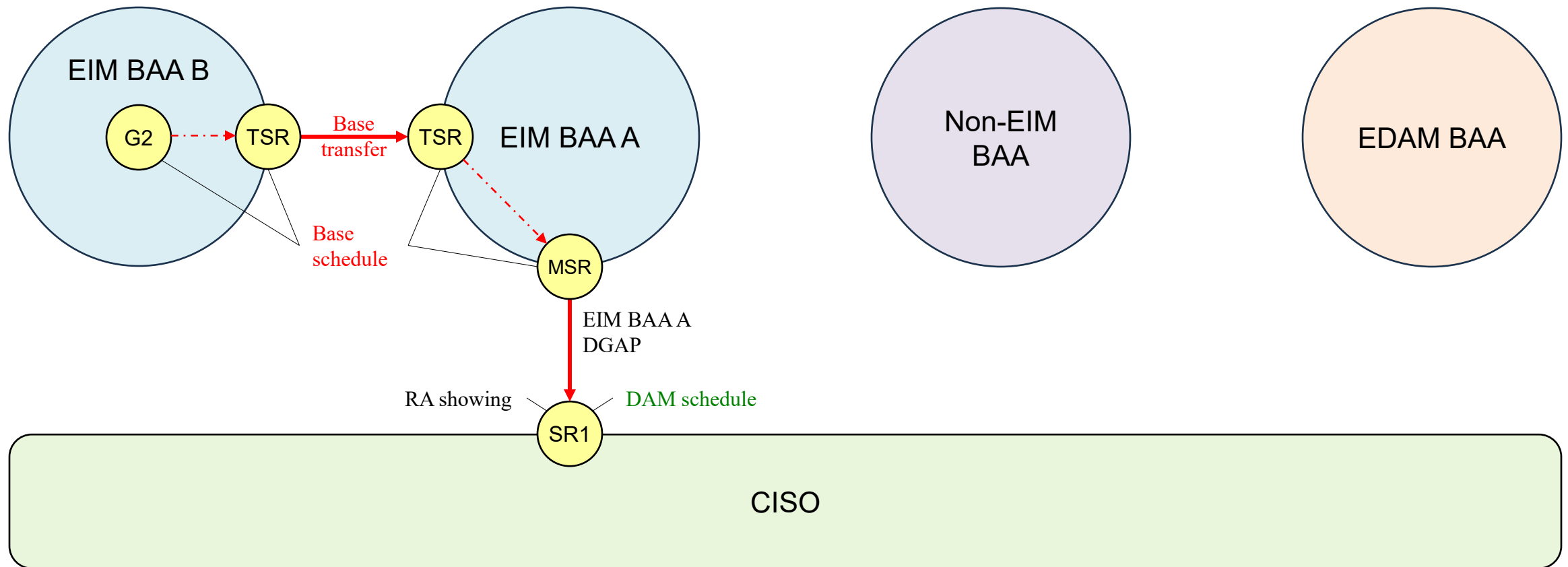
Example: RA source in non-EIM BAA (indirect schedule)



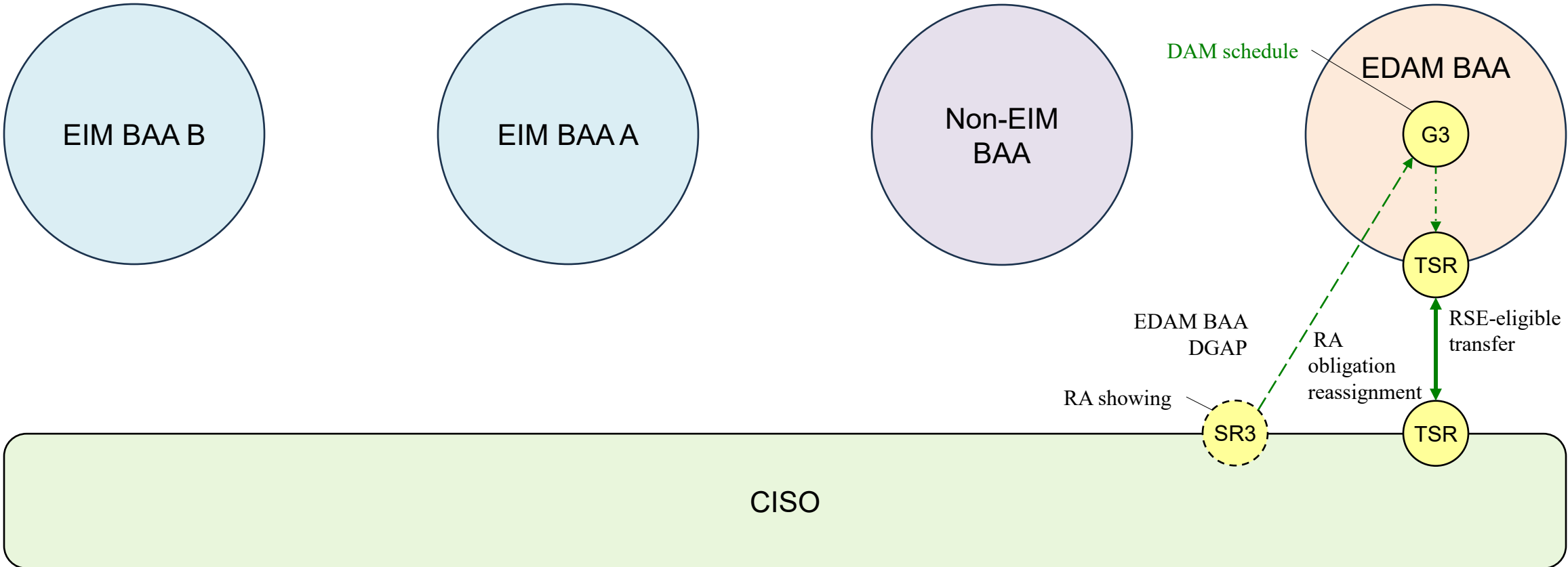
Example: RA source in EIM BAA (G1)



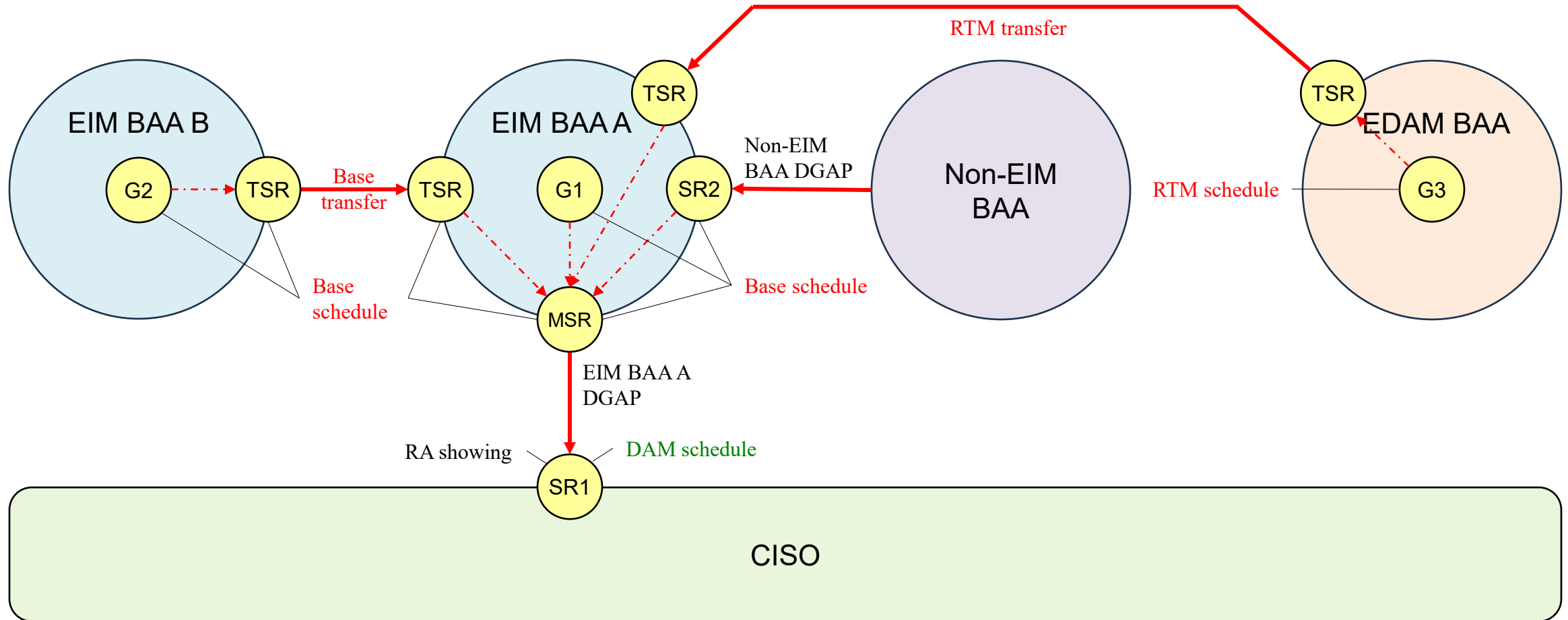
Example: RA source in EIM BAA (G2)



Example: RA source in EDAM BAA (G3)



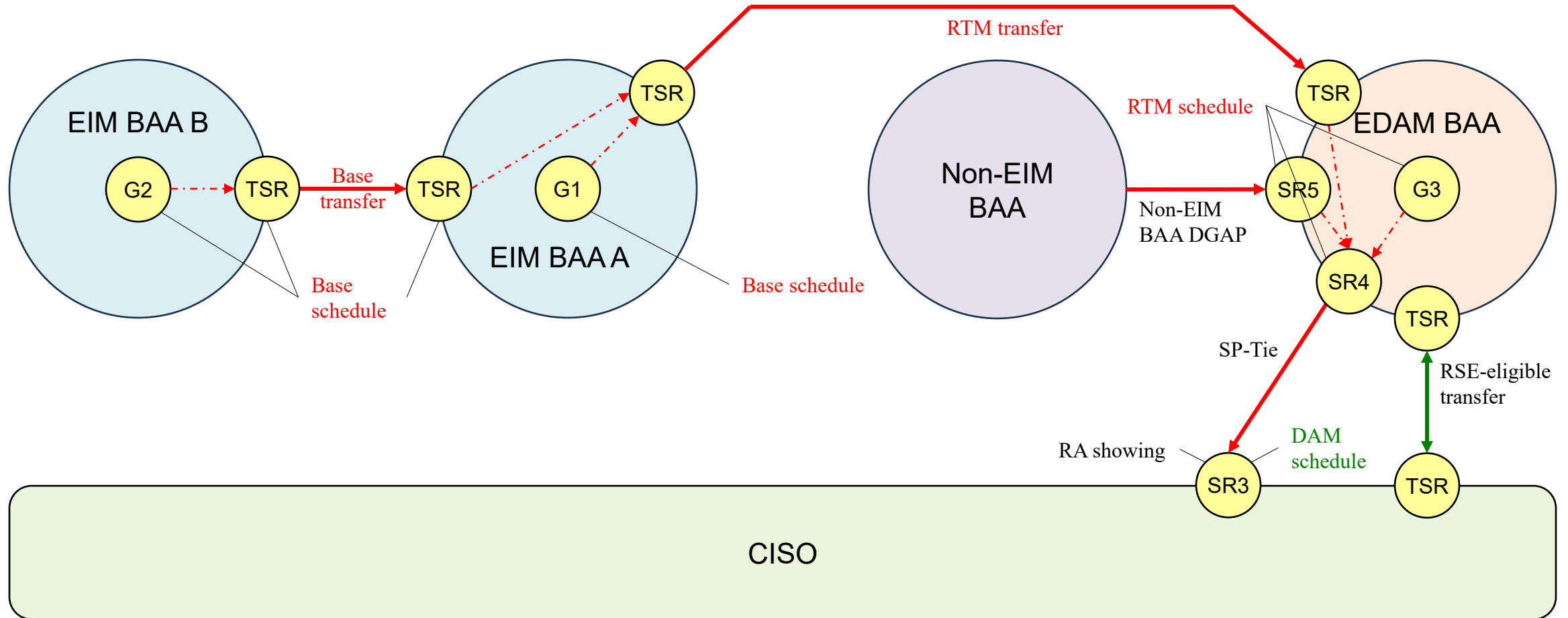
Example: RA source unknown



EDAM Transitional Period

- CISO interties:
 - ◆ Existing SP-Tie for scheduling, mirroring, schedule distribution, CRR source/sink, RA import, and LMP calculation, same as today
 - ◆ Constrained by ISL/ITCs, same as today
 - ◆ EDAM CISO (internal) interties (from CISO to EDAM BAA):
 - Limited support for RA/RPS Imports to CISO
 - When RA/RPS source is either unknown in DAM or from outside EDAM
 - Requires manual mirroring by the SC self-scheduling export at EDAM BAA intertie in RTM to match the DA import and bridging it with the actual source

Transitional period (EDAM intertie and RA source unknown)



Next Steps

- Stakeholder comments are requested on today's presentation by **May 11, 2026.**
- May 2026 workshop
 - Modeling inputs in GAP-Tie design
 - Continued discussion on RA imports under GAP-Tie design
 - CRR and intertie schedule modeling alignment
 - Transacting at internal and external EDAM footprint interties
- Workshop topics will be further informed by the next round of stakeholder comments.

This Week at the ISO – 4/27/26

Stakeholder Meetings

All public stakeholder meetings are also listed on the [CAISO Calendar](#)

- Monday, April 27th – Market Performance and Planning Forum Q2
 - 9:00am – 12:00pm PT ([link](#))
- Monday, April 27th – Intertie Schedule Modeling Evolution on CAISO Interties - Virtual Workshop
 - 1:00pm – 4:00pm PT ([link](#))
- Tuesday, April 28th – BPM Change Management Proposed Revision Request Review
 - 9:00am – 12:00pm PT ([Registration Link](#))
- Tuesday, April 28th - WEM Governing Body General Session
 - 1:00pm – 3:45am PT ([link](#))
- Tuesday, April 28th - Interconnection Customer User Group
 - 1:00pm - 2:00pm PT([Registration link](#))
- Wednesday, April 29th - Joint ISO Board of Governors and WEM Governing Body General Session
 - 2:30pm - 5:30pm PT([link](#))
- Thursday, April 30th - ISO Board of Governors General Session
 - 10:00am - 12:00pm PT([link](#))
- Thursday, April 30th - Market Update
 - 10:00am - 10:30am PT([link](#))

Comment Submission Deadlines

- Wednesday, April 29th - 2025-2026 Transmission planning process
- Thursday, April 30th- Day-Ahead Market Enhancements (DAME) Configurable Parameters

This Week at the ISO continued

EDAM & Parallel Operations Activities

The Release Activation Review for DAME and EDAM occurred on 4/23/26. The meeting included important information for our EDAM, DAME, and WEIM users. Please see the links to review the [presentation](#) and [recording](#).

The [Parallel Operations Plan](#) allows participants to test systems and procedures ahead of market implementation, serving as a market “dress rehearsal” to support a smooth production launch. The items and resources below are intended to help guide you through this process.

EDAM FAQ & Training:

- [EDAM FAQ Guide](#) - Designed to address general EDAM related questions
- [EDAM Training Resources](#) - A comprehensive set of EDAM training materials is available, offered in both instructor-led and computer-based training (CBT) formats. These resources include courses covering:
 - Bids and Base Schedule
 - EDAM Bidding Basic Concepts
 - Scheduling Infrastructure Business Rules (SIBR)
 - EDAM Scheduling Coordinator responsibilities
 - Intertie Scheduling
- [EDAM Business Requirements Specifications](#) - Describes EDAM’s business processes and the associated business requirements.
- [DAME Business Requirements Specifications](#) - Describes DAME’s business processes and the associated business requirements.
- [EDAM Scheduling Coordinator Decision Matrix](#)

Settlements:

- o [Settlements BPM Walkthrough](#)
- [Parallel DAME-EDAM Settlements Calendar](#)
-

This Week at the ISO continued

Market Simulations

Please refer to our [Release Schedule](#) for the most recent updates of initiatives scheduled for MAP- and Production- stage market sims

- Monday, April 27th – [Parallel Operations - DAME, EDAM, EDAM CAISO Balancing Authority Area Participation Rules Market Simulation and Parallel Ops Meeting](#)
- 9:00am – 10:00am PT ([link](#))
- Thursday, April 30th – [Parallel Operations - DAME, EDAM, EDAM CAISO Balancing Authority Area Participation Rules Market Simulation and Parallel Ops Meeting](#)
- 1:00pm – 2:00pm PT ([link](#))

Presentations and recordings of the Parallel Operations Meeting are posted [here](#).

To participate in the DAME and EDAM Implementation pre-Market Simulation meeting series, please follow these steps:

Submit a CIDI Request:

- Log in to the CAISO Customer Inquiry, Dispute, and Information (CIDI) system.
- Create a new request with the 'Functional Environment' set to "Market Simulation."
- In the request, specify your intent to participate in the DAME & EDAM Market Simulation.
- Include the following information:
 - Market Simulation initiative(s) you will participate in.
 - Any specific resources or systems you plan to test.
 - Contact names and email addresses for coordination.

Email Option:

- If you do not have access to CIDI, you may send an email to marketsim@caiso.com with the subject line "DAME & EDAM Market Simulation Registration."

Business Practice Manual (BPM) Updates

- The status of all PRRs and updated BPMs in the [BPM Library](#) are published on the [BPM Change Management Website](#). *The Business Practice Manual Proposed Revision Request Review monthly meeting on Tuesday, April 28, has been extended to three hours, from 9:00 a.m. to 12:00 p.m. This additional time reflects our commitment to meaningful stakeholder engagement and ensuring there is sufficient opportunity to discuss the open PRRs, primarily related to DAME and EDAM changes, and address questions and feedback. We look forward to active participation in the discussion.*



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Stakeholder Symposium Registration and Sponsorship Opportunities Opening in May

By Joanne Serina

04/15/2026



Story | Inside the California ISO, Markets

Frequency Band, a new podcast keeping the beat at 60 Hertz

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03/30/2026



Story | Summer conditions, Markets

Summer readiness activities are well underway

03/17/2026

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