Initiative 7.3: Implement Point-to-Point (PTP) convergence bids (CBs).

Currently CAISO market participants (MPs) can bid either virtual supply or virtual demand. In theory CBs should lead to convergence between day-ahead market (DAM) and real-time market (RTM). In practice having only virtual supply (VS) or virtual demand (VD) can lead to divergence if MPs are bidding on constraints, as such bidding may require them to place "price taking" pair of VS and VD, thus diverging DAM and RTM prices instead of converging them. We previously proposed to allow MPs to bid a PTP – a source and a sink combined with specified price. Such PTP will clear as long as the specified price is greater than the difference between sink and source in DAM. The MP, who cleared a given PTP, will pay the difference of LMP at the sink minus LMP at the source in DAM and will be paid that difference in RTM. These price differences may be positive or negative, determining whether the MP is paid or has to pay in either DAM or RTM. The advantages of having PTPs in addition to VS and VD are:

1. Better convergence of DAM to RTM as it allows PTPs to be aligned with constraints and thus converge shadow price in DAM to shadow prices in RTM. Constraints are linear instruments and are better served with linear CBs, i.e. PTPs, as opposed to VTs that may achieve only point by point convergence but not constraint by constraint convergence.

2. Better risk management for MPs as they do not have to submit price taking pair of VS and VD, when bidding on constraints, and thus unwillingly expose themselves to unrealistic levels of DAM shadow prices that are unlikely to materialize in RTM. There is also no risk of exposure to system energy price due to asymmetric clearing, which is always present when bidding a pair of VS and VD. In PTP CB its source and sink always clear together.

Since CAISO already has wheeling transactions implemented in its clearing system, it seems to be a matter of extending those to include internal CB locations to enable PTP CBs to clear alongside VS and VD system-wide. Other markets, such as PJM and ERCOT, have successfully implemented PTP bids (aka "Up-to-congestion bids").