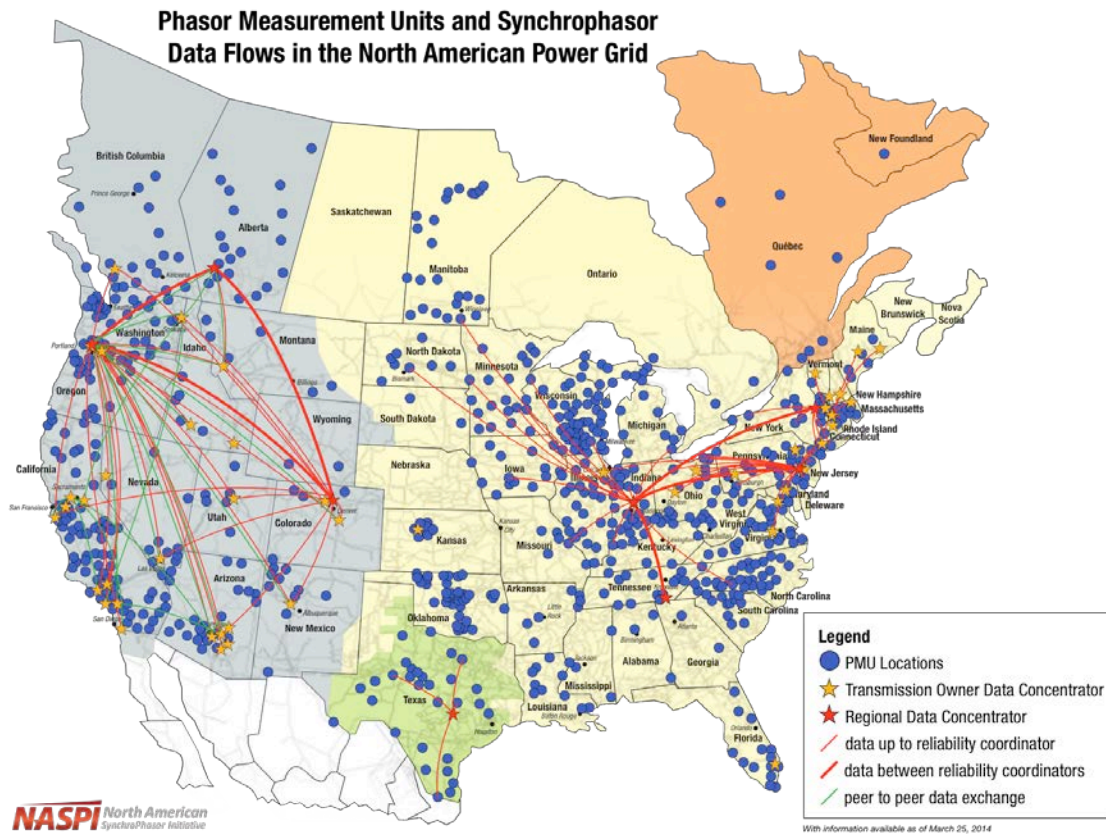


## Representative Data Flows from Transmission Operators to Regional Hubs, Between Reliability Coordinators, and Between Transmission Operators



In 2009 there was little data-sharing of synchrophasor data between grid operators. Today there is extensive sharing of synchrophasor data thanks to the U.S. Department of Energy Smart Grid Investment Grant (SGIG)-assisted synchrophasor technology build-out.

- In the Eastern Interconnection, most but not all of the transmission operators with phasor measurement units (PMUs) are collecting their PMU fleet data (gold stars) and sharing their data with their regional reliability coordinators' data hubs (red stars). Several of the regional reliability coordinators are sharing synchrophasor data with each other (thick red lines); this is a work in progress and much more data will be shared over the coming year.
- Within the Electric Reliability Council of Texas (ERCOT), all of the transmission operators' PMU data are flowing into a single data hub. The data flows on this map represent the relationships in place in February 2014. As synchrophasor data networks improve and synchrophasor applications become more widely accepted within grid operations, the number of entities sharing synchrophasor data between local data concentrators and reliability coordinator's regional data hubs will increase.
- In the Western Interconnection, almost every PMU is feeding data into a transmission operator's phasor data concentrator (gold stars) and from there across an interconnection-wide data network (funded by the SGIG Western Interconnection Synchrophasor Project and the WECC project partners) up to interconnection-wide data hubs (thin red lines to red stars) for reliability monitoring. There are also extensive flows of synchrophasor data between reliability coordinator hubs (thick red lines) and directly between transmission operators (thin green lines). These flows allow true wide-area situational awareness.