



Western Electricity Coordinating Council

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Bridge Energy Group

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NASPI Work Group Meeting
February 24–25, 2010

PMU

- Minimum specifications
 - C37.118 – 2005
 - 30 / 60 Frames per second
 - Firmware upgrade to C37.118-20XX
 - UDP/IP Multicast (IPv6)
 - Local Access
 - NERC CIP-002 through CIP-009

PMU (continued)

- Minimum spec questions
 - A/D sampling rate
 - UTC Synchronization
 - Sample Rate
 - Gain
 - Phase Delay
 - Phasor inputs
 - Analog inputs
 - Digital / Status inputs
 - Commissioning (IEC 61850 SCL)

PDC

- Categories

- Substation

- Small number of PMUs
- Rule Set and Threshold configuration
- Local control and protection
- IEC 61850 (Generic Substation Event GOOSE and GSSE)

- Control Center

- Primarily concentrating data from other PDCs
- More flexible routing configuration

PDC (continued)

- Specifications

- C37.118-2005 (upgradeable)
- UDP/IP multicast (IPv6)
- Local and Remotely configurable
- Latency < 10 milliseconds?
- Concentrate 40 devices
- Scale out

PDC (continued)

- Questions

- IEC 61850 (Substation Configuration Language)
- How much can we ask a PDC to do
 - Gateway
 - On the fly routing changes
 - On the fly channel filtering
 - Down sampling
 - Protocol conversion
 - Commissioning

Questions





Western Electricity Coordinating Council

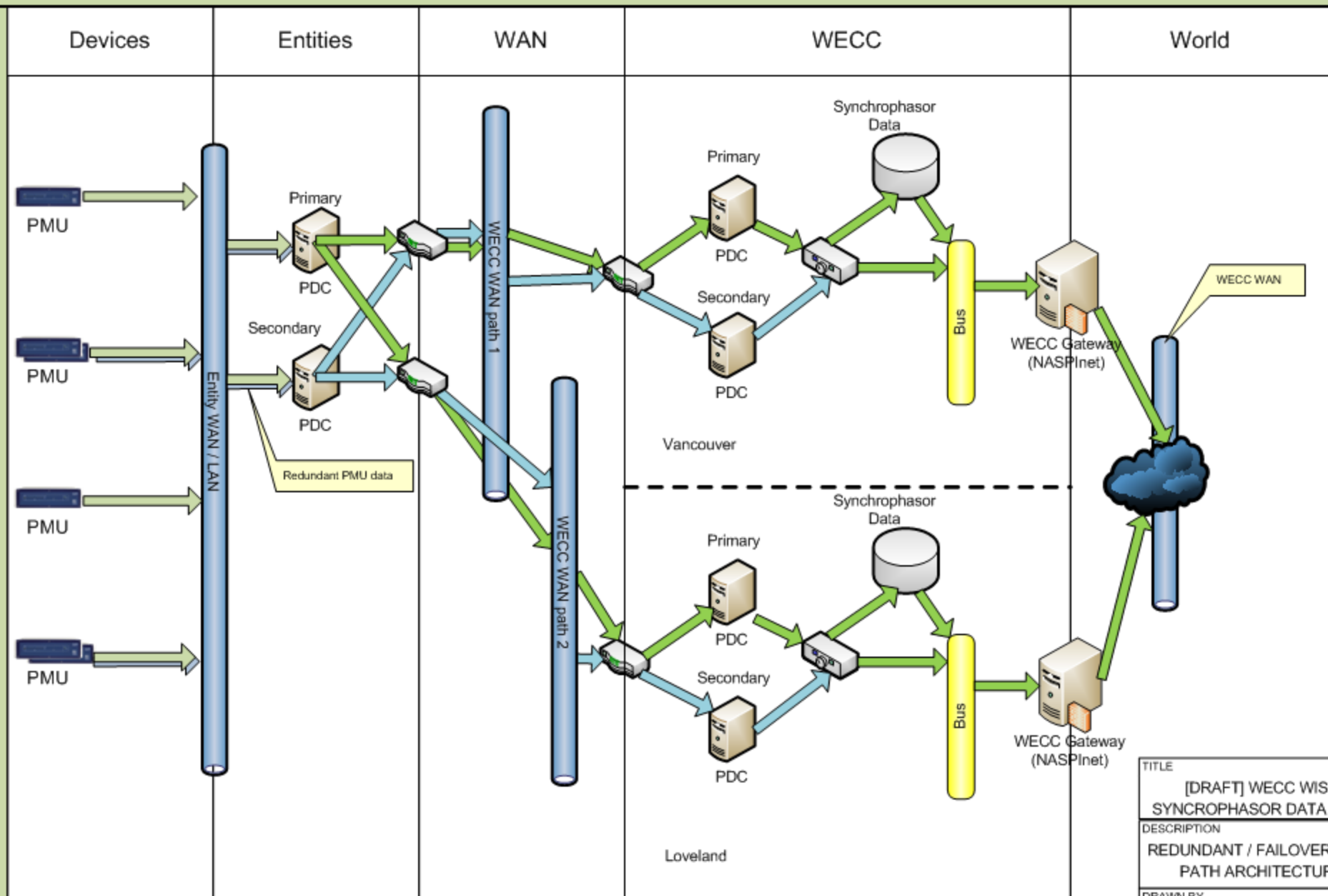
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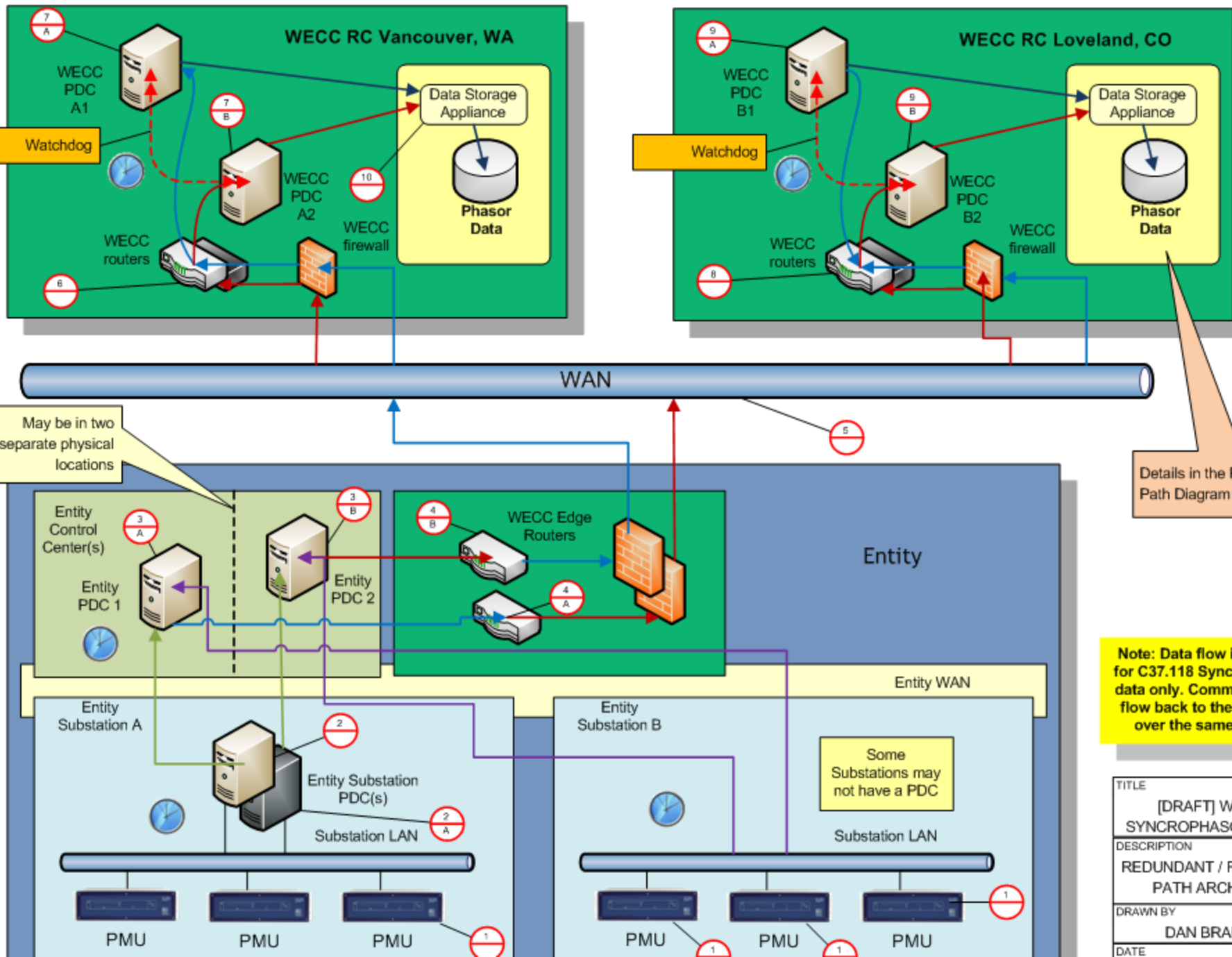
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WECC WISP Overview



TITLE	[DRAFT] WECC WISP SYNCHROPHASOR DATA PA
DESCRIPTION	REDUNDANT / FAILOVER D PATH ARCHITECTURE
DRAWN BY	DAN BRANCACCIO
DATE	1/13/2010

Entity to WECC Overview

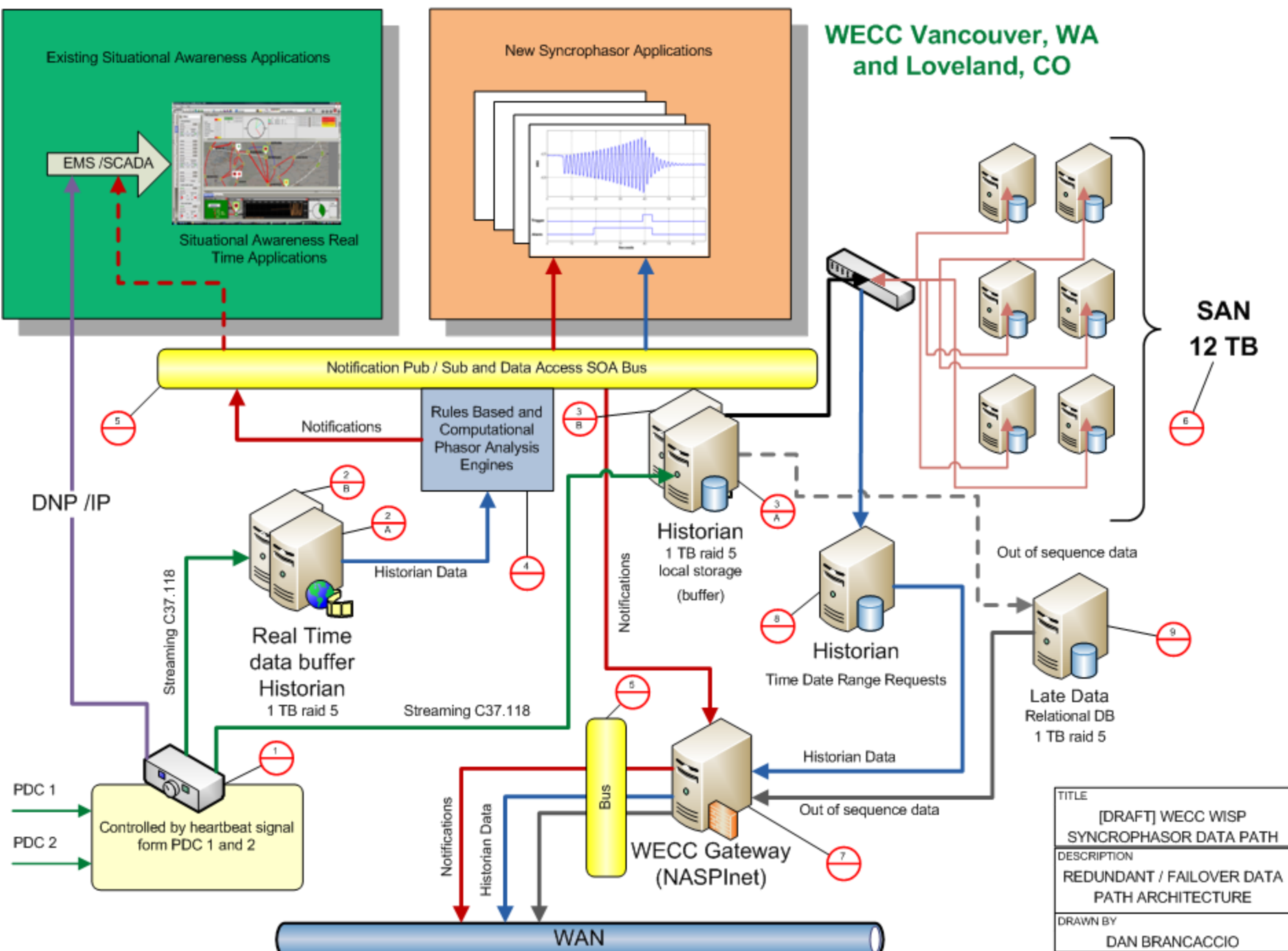


Note: Data flow is shown for C37.118 Synchrophasor data only. Commands will flow back to the devices over the same paths

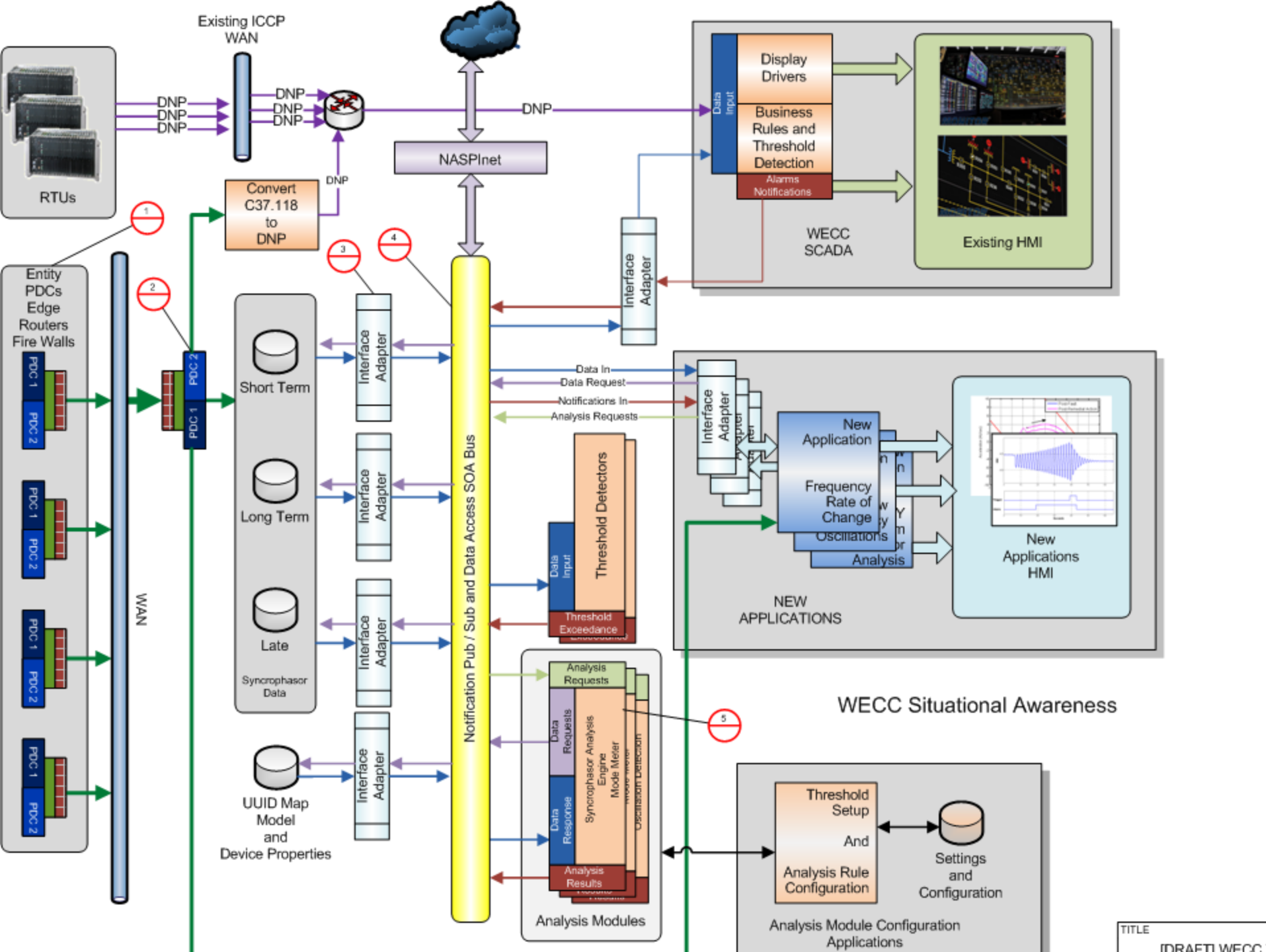
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DATE	

WECC Internal

WECC Vancouver, WA and Loveland, CO



TITLE	[DRAFT] WECC WISP SYNCHROPHASOR DATA PATH
DESCRIPTION	REDUNDANT / FAILOVER DATA PATH ARCHITECTURE
DRAWN BY	DAN BRANCACCIO



Questions

