

**Consortium for
Electricity
Reliability
Technology
Solutions**

Real Time
Dynamics
Monitoring
(RTDM)

**Overview and Demonstration of CERTS
Real Time Dynamics Monitoring
for
EIPP – Real Time Applications Task Team**

**By: Jim Dyer
March 30, 2004**



Real-Time Team

Wayne	VanOsdol	MISO	Team Lead	
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Carlos	Martinez	CERTS		
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James	Viikinsalo	Southern Company		
Wai-Ran	Wu	TVA		
Joe	Chow	NYISO/RPI		
Armando	Guzman	SEL		
Ryan	Prejean	Entergy		



EIPP Short-Term Goals

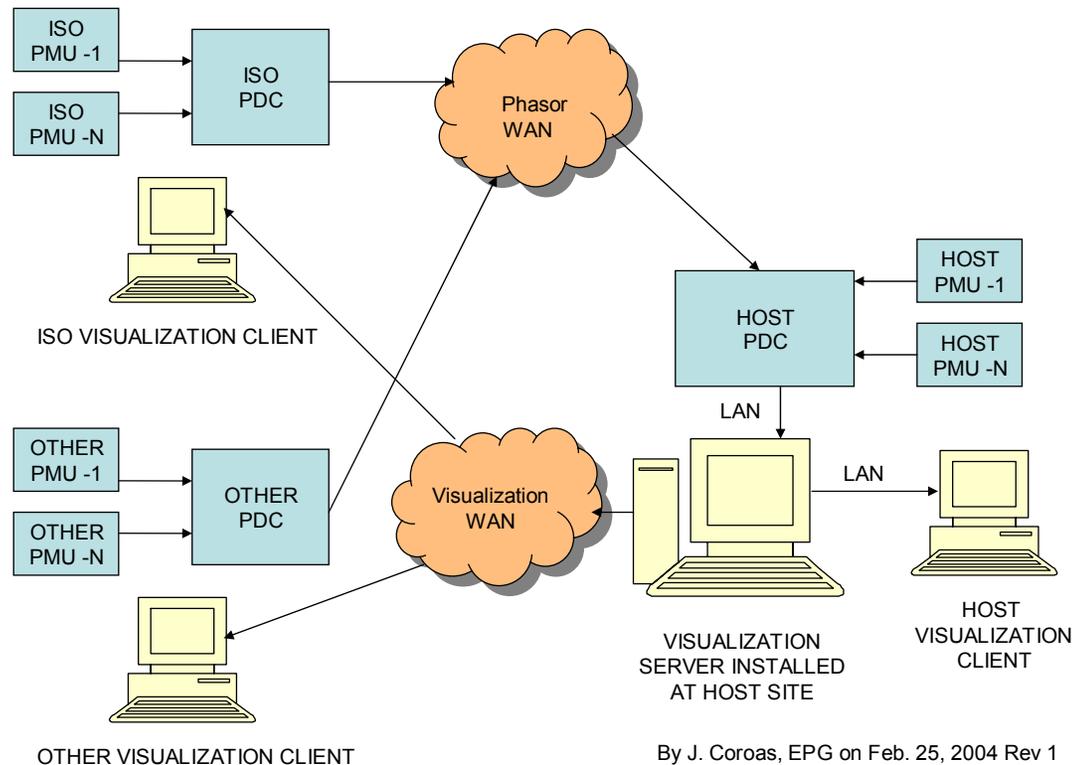
Short-Term Goals

Objective	Responsibility	Completion Date
Develop the blueprint for the most effective use and dissemination of wide area measurement data and information to utilities, NERC and appropriate government agencies	Work Group	Mar 2004 (1 st Draft)
Develop a prioritized list of applications (visualization tools) for the use of wide area measurements	Real Time Apps TT & Off Line Apps TT	Jun 2004
Get a minimum of four data collection sites and 30 instruments operational	Phase I Implementation TT	Dec 2004
Quick deployment of appropriate tools within the control room	Real Time Apps TT	Oct 2004 (Initial deployment)
Develop the necessary agreements and administrative infrastructure to collect and share the data	Business Mgmt TT	Mar 2004 (Interim agreements for pilot) Dec 2004 (Comprehensive agreements)
Inform and enroll key participants who need to be brought in to the project	Work Group	Mar 2004
Establish liaison to key policy groups	Work Group	Mar 2004
Baseline (document) progress to date on instrument testing and certification	Standards & Performance TT	Jun 2004



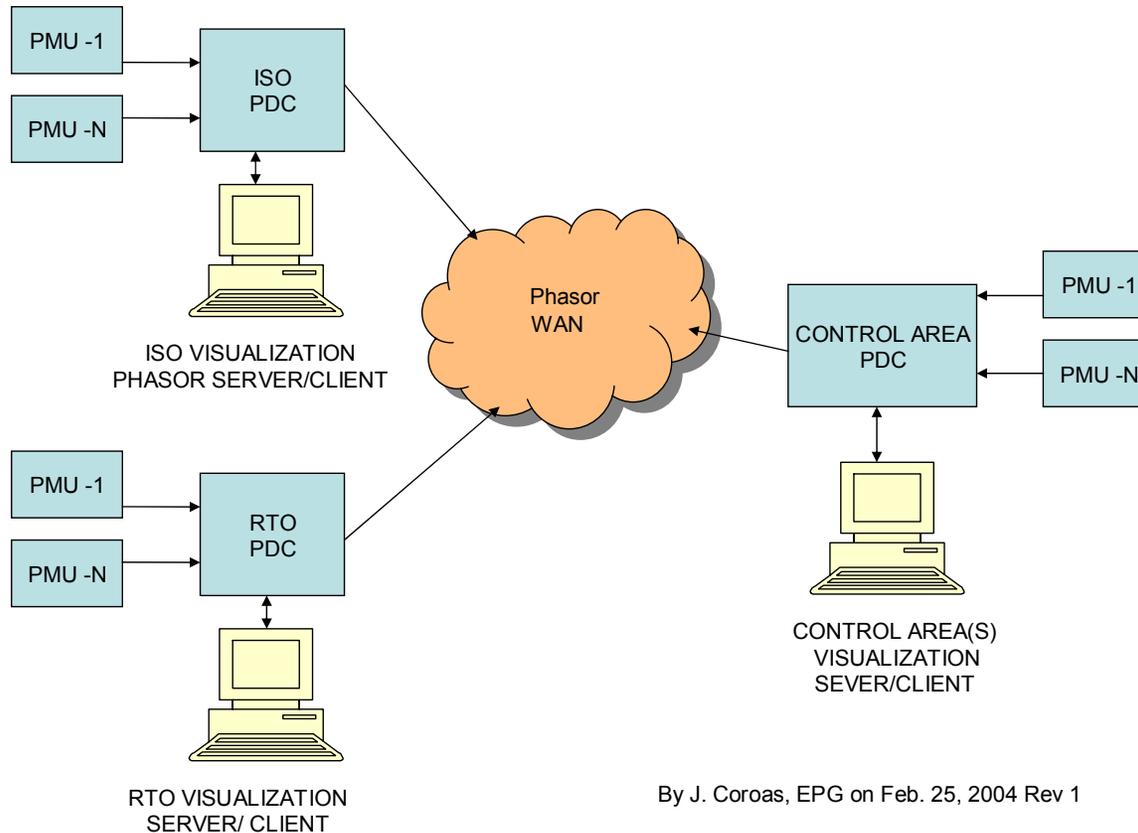
EIPP Interim Approach

EIPP Phasor Measurement and Visualization Network(s)
Interim Approach



EIPP Final Configuration

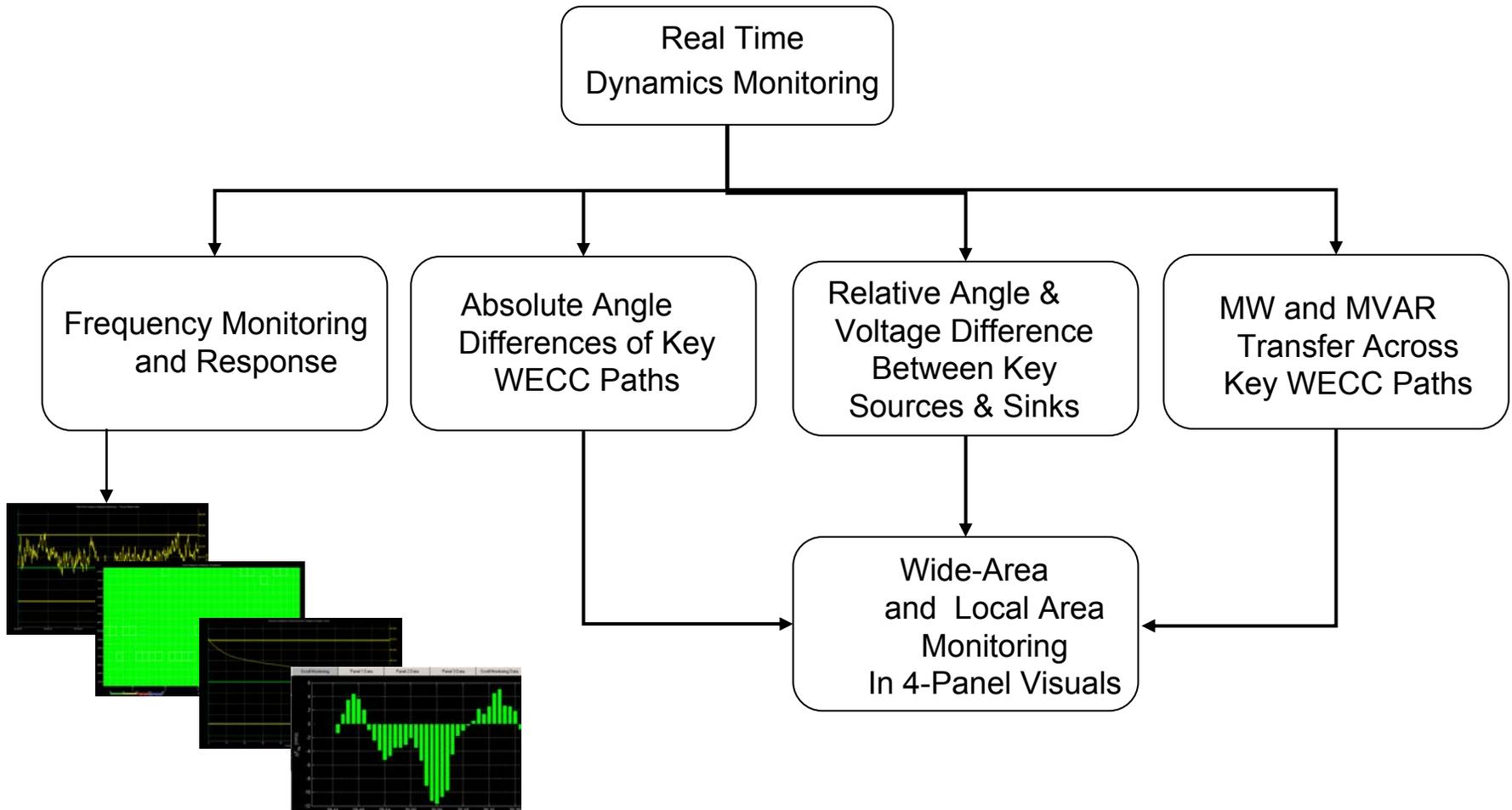
EIPP Phasor Measurement and Visualization Network
Final Configuration (Current WECC)



By J. Coroas, EPG on Feb. 25, 2004 Rev 1



Real Time Dynamics Monitoring - Visualization Solutions Overview



Frequency Monitoring and Response



1-Panel Visual

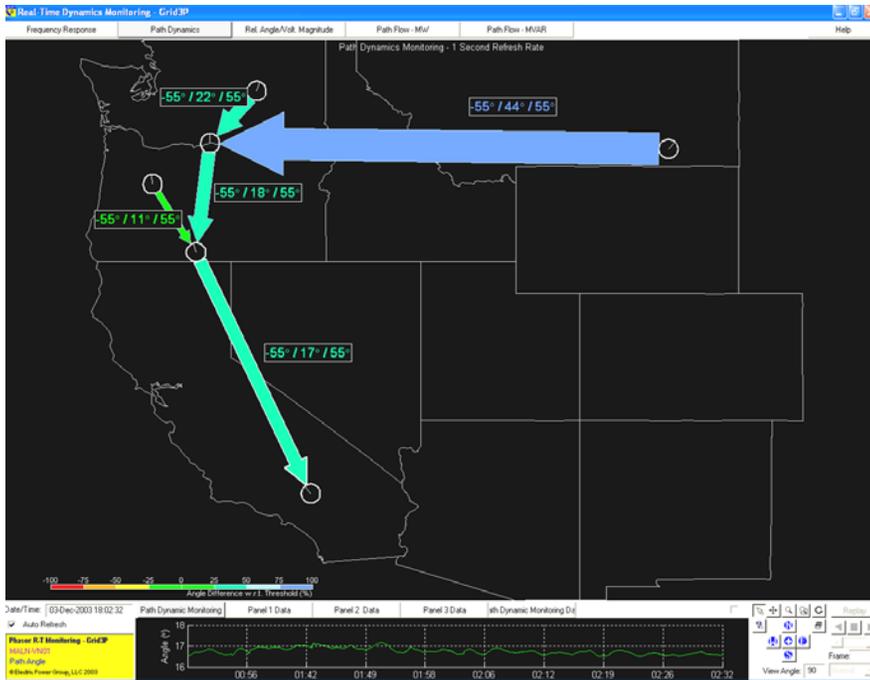


3-Panel Visual

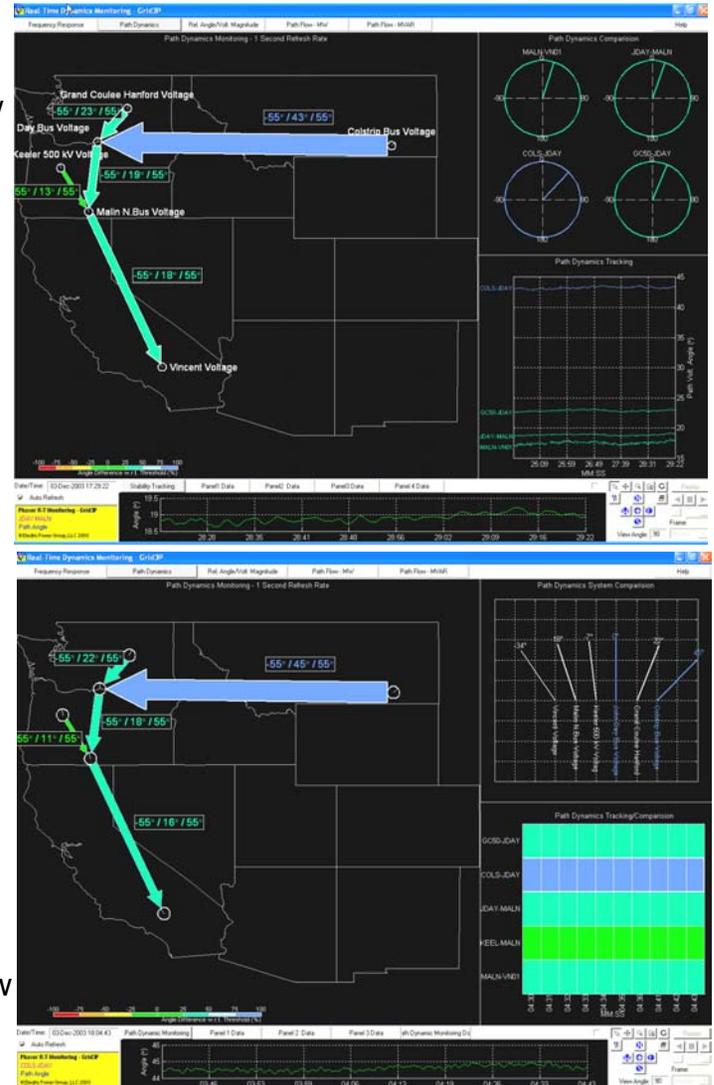


Absolute Voltage Angle Differences Across Key WECC Paths

Local View

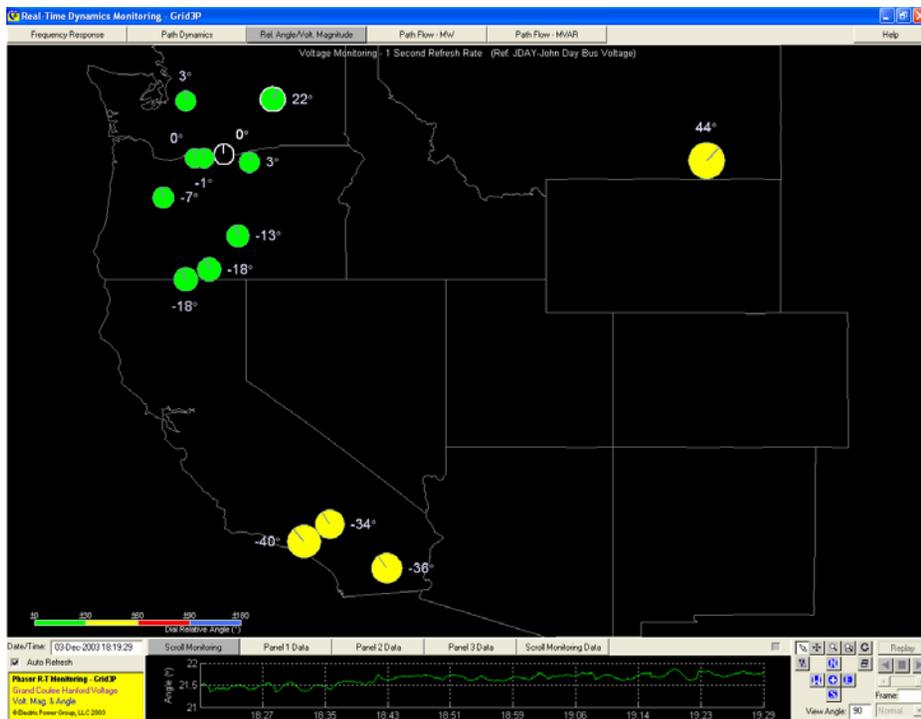


Wide-Area View

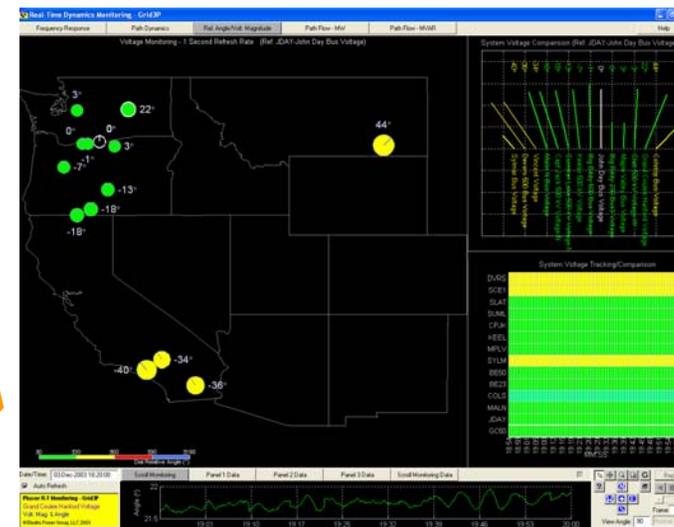
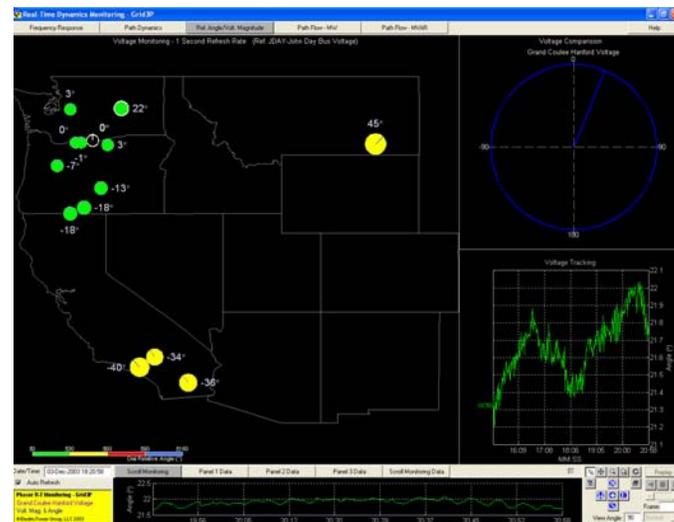


Relative Angle Differences Between Key WECC Sources & Sinks

Local View

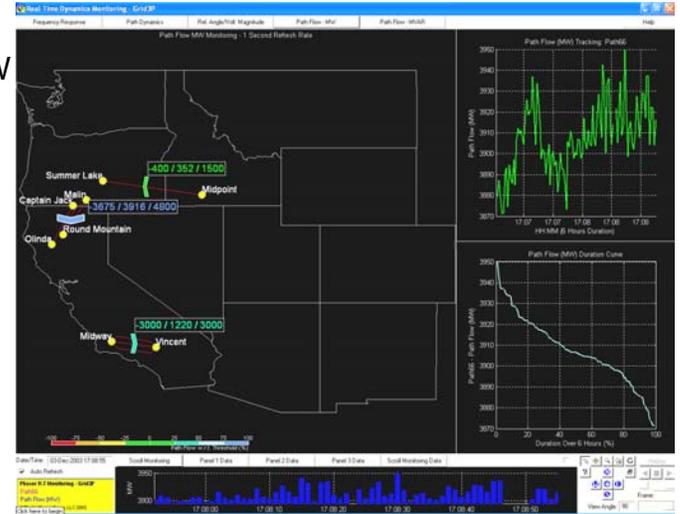
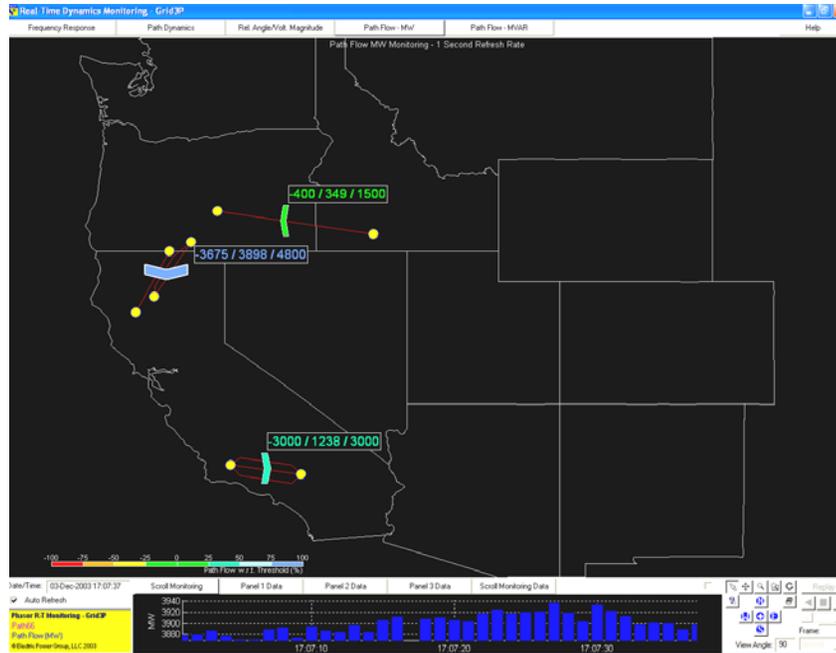


Wide-Area View



MW and MVAR Transfer Limit Monitoring For Key WECC Paths

3-Panel View MW



3-Panel View MVAR

