EIPP WORK GROUP MEETING

REAL-TIME TEAM REPORT

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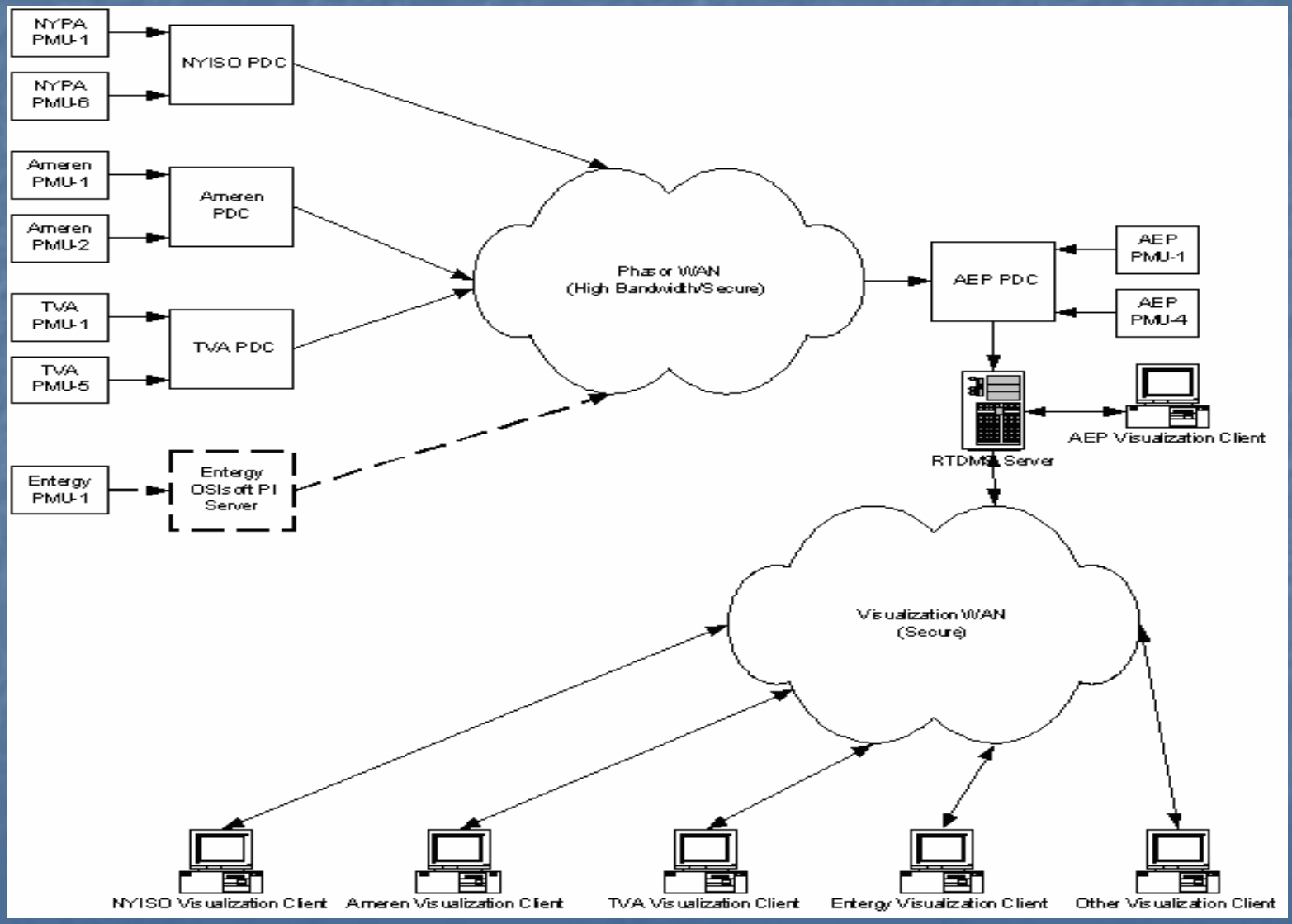
June 18, 2004

OVERVIEW

- The implementation steps towards establishing EIPP Phase I network involves an "interim" phase which is scheduled to be completed by October 1st, 2004.
- The proposed goal for this "interim" phase is to set up point-to-point links from the PDCs from "client" participants (NYISO, Ameren, TVA and Entergy) to a common Host PDC (or SuperPDC) at AEP.
- The real-time phasor measurements from all the PMUs connected to these PDCs will be gathered at the Host PDC and shall be available to each participant for visualization purposes.

"Interim" Phase



EIPP "Interim" Phase Status

Task "A"

- Survey and identify the phasor data residing in Host and Clients PMUs connected to PDCs

- *Status* Completed. Currently, there are a total of 18 PMUs, 4 PDCs and a PSIsoft PI database involved in the integration process as shown in the table below.

EIPP "Interim" Phase Status

Task "A"

- The lines/stations being monitored by these PMUs.

PMU Location	# Phasors	Owner
1. Massena 765kV	TBD	NYPA
2. Marcy 765kV	5	NYPA
3. Marcy 345kV	10	NYPA
4. Niagara 345kV	10	NYPA
5. Fraser 200kV	10	NYPA
6. Robinson Rd 115kV	6	NYPA
7. Orange 765kV	5	AEP
8. Rockport 765kV	4	AEP
9. Jackson's Ferry 765kV	5	AEP
10. Kanawha River 345kV	5	AEP
11 Cordova 500kV	6	TVA
12. Volunteer 500kV	6	TVA
13. Freeport 500kV	3	TVA
14. Shelby 500kV	5	TVA
15. Summer Shade 161kV	5	TVA
16. Rush Island 345kV	6	Ameren
17. Callaway 345kV	6	Ameren
18. TBD	TBD	Entergy

EIPP "Interim" Phase Status

Task "B"

- Survey and identify PDC capacity and data transfer format requirements for both the Host and Clients PDCs
- *Status* Work has been completed. Summary of results is provided below. Clarification is needed on how the phasor data from the PI database (Entergy) will be integrated into the Host PDC.

EIPP "Interim" Phase Status

Task "B"

	PDC Vintage	Transfer Rate	Bandwidth
AEP	AEP Customized	30 Samples/Second	N/A (Host PDC)
Ameren	BPA	60 Samples/Second	68.4 kbs
NYISO	BPA	6 Samples/Second	14.3 kbs[2]
TVA	BPA	30 Samples/Second	~80 kbs
Entergy	OSIsoft PI Database	20 Samples/Second	TBD

EIPP "Interim" Phase Status

Task "C"

- Determine the vintage of all BPA PDCs to be used in the EIPP and upgrade or enhance the PDC software to ensure PDC to PDC data communications capability for installing CERTS' RTDMS at Host and Clients.

- *Status* Work has been completed. The operating systems on all the operable BPA PDCs have been identified and upgraded.

EIPP "Interim" Phase Status

Task "D and E"

- "D" - EPG to develop a functional spec for the project
- *Status* - The function and design specifications for the RTDMS project have been drafted and the development is to begin shortly.

- "E" - Define and deploy the point-to-point communication links between the 3 PDCs and Host PDC
- *Status* - Completed survey of existing communication links between PMUs and PDCs as well as researched viable networking solutions that may be used for this connectivity, and have summarized these options.

EIPP "Interim" Phase Status

Task "F and G"

- "F" - Define and deploy PDC database and subsets:
  - Integrate data filters at PDCs
  - Modify the database at host PDC
- *Status* - The Host database has to be modified to accept all the measured phasor data. Define RTDMS database in Host Grid-3P server to accommodate initial PMUs and PDCs

- "G" Stream Data Interface
- *Status* - The RTDMS database has been defined to accommodate all the measured phasor data identified.

EIPP "Interim" Phase Status

Task "H"

- Define and develop the data communication software at host site for client interface via secure internet (Web Server).
- *Status* - The RTDMS server will be designed such that a visualization client can communicate with the server from anywhere on internet. It will rely on the prevalent XML/SOAP in conjunction with Microsoft's IIS web server to transfer the data from the client. The server shall receive its requests for information through the SOAP (Simple Object Access Protocol) messages. A major advantage of SOAP is that it is language independent and is XML based.

EIPP "Interim" Phase Status

Task "I and J"

- Task I - System integration test at EPG's facility
- *Status* To be completed once application is developed.

- Task J - System integration test at Host site. RTDMS release to clients via CDs
- *Status* To be completed once system is setup.

EIPP "Interim" Phase Status