

VOYAGE2007



PEMEX PIPELINE MONITORING

SPEAKER:
MAURO ARENAS NOBLE



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VALUE NOW, VALUE OVER TIME

Agenda

- Overview
- Challenges
- Solutions
- Points solved
- Next steps

Overview



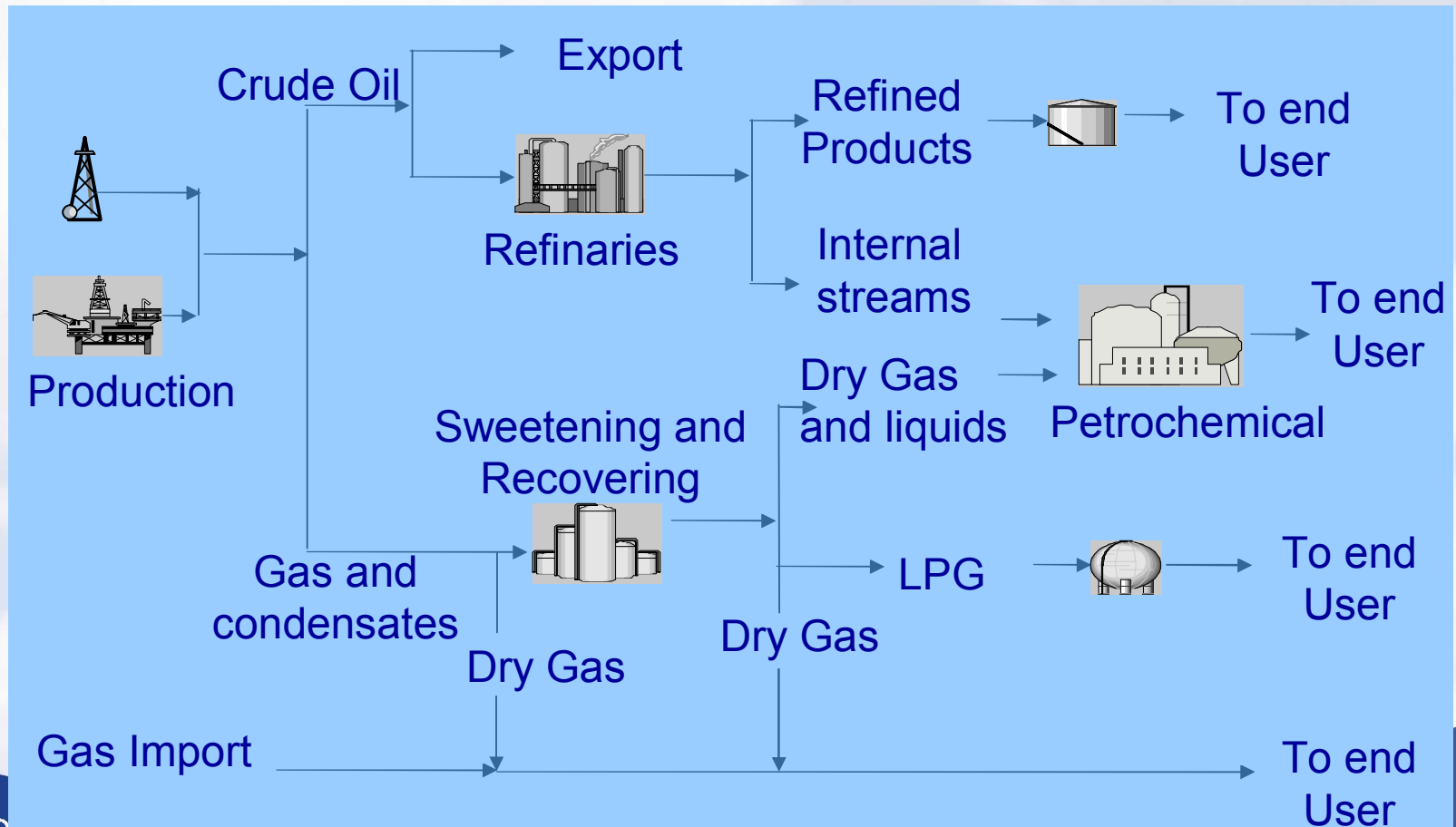
Challenges. Divisions

- Four separated business lines
 - ▶ Divisional barriers.
 - Low levels of coordination.
 - Applications not talking to each other.
 - Independent project development.
 - Not sharing common infrastructure.
 - ▶ Value Chain suboptimized .
- Pipelines
 - ▶ Natural links between the productives areas
 - ▶ Embedded in the business lines
 - ▶ Different visions & priorities



Challenges. Transportation vision

- A new vision of transportation system including Upstream, downstream & middlestream is required.



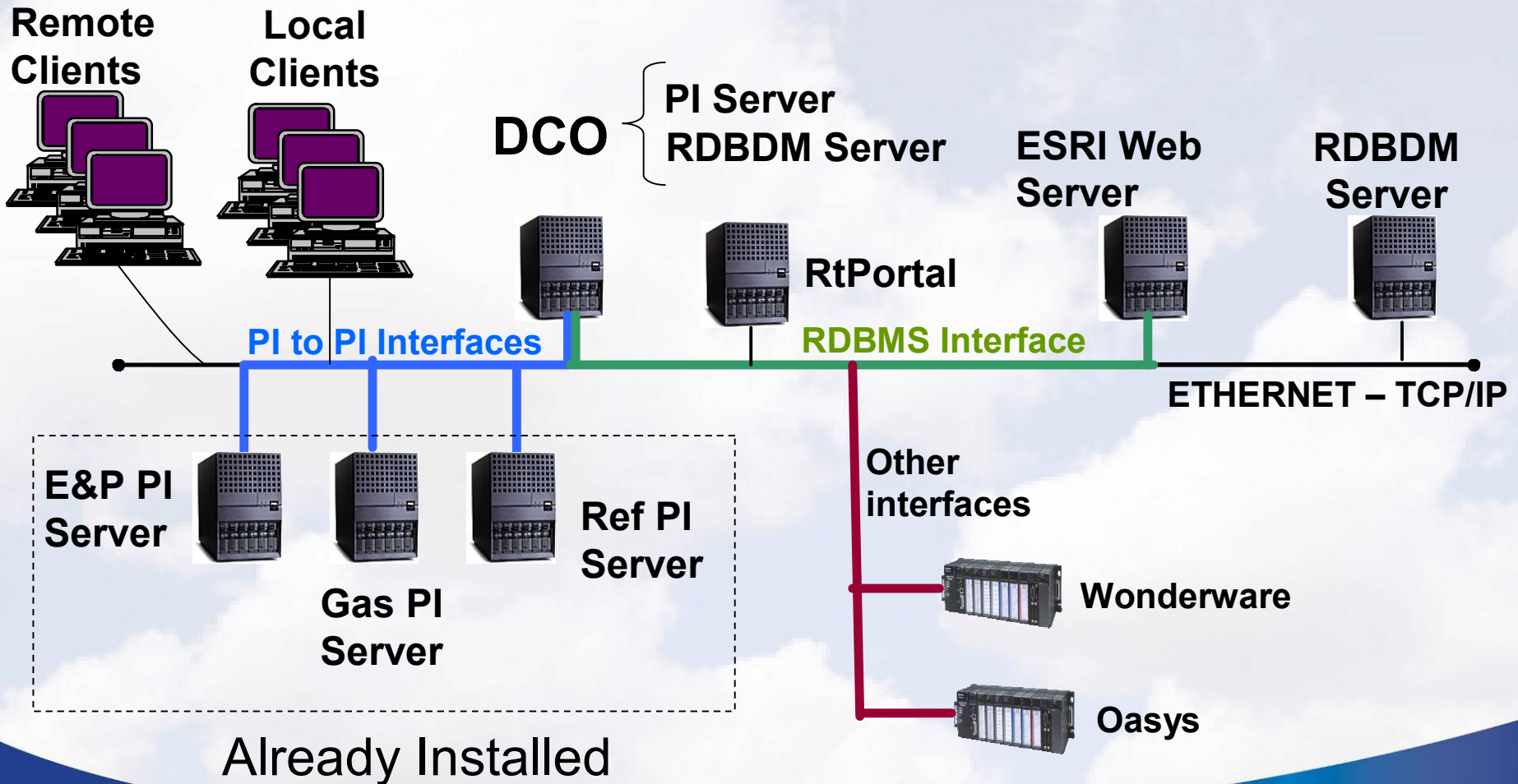
Challenges. Monitoring

- Real time Pipeline monitoring
 - ▶ Supervision of operating conditions with a system vision.
 - ▶ To evaluate operational efficiency.
 - ▶ To measure performance of the pipeline transportation systems.
 - ▶ To support decisions in case of incidents and accidents.

Solutions.



Solutions. Architecture



Solutions. Operating conditions

Principal Tiempo Real

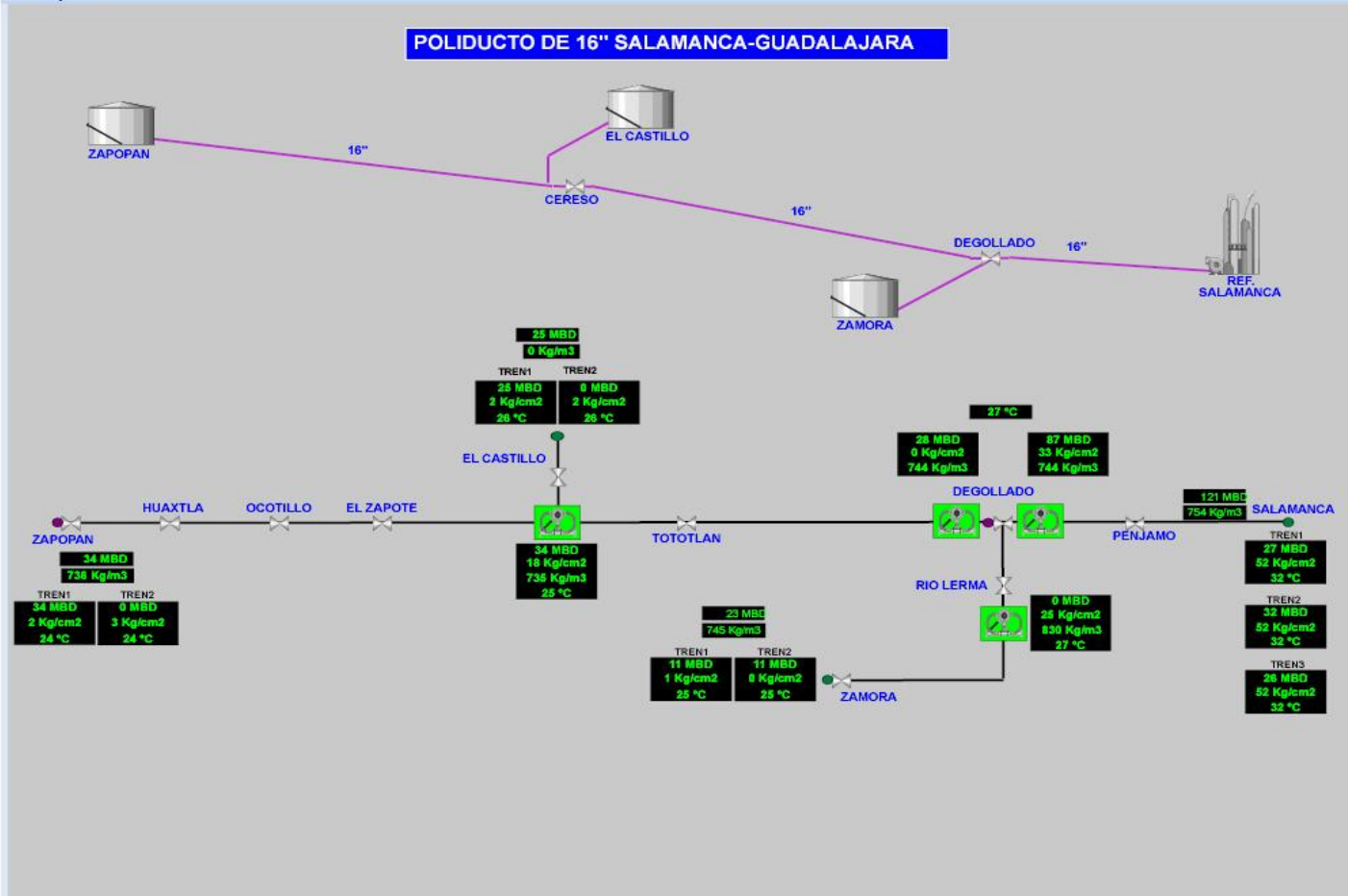
PREF

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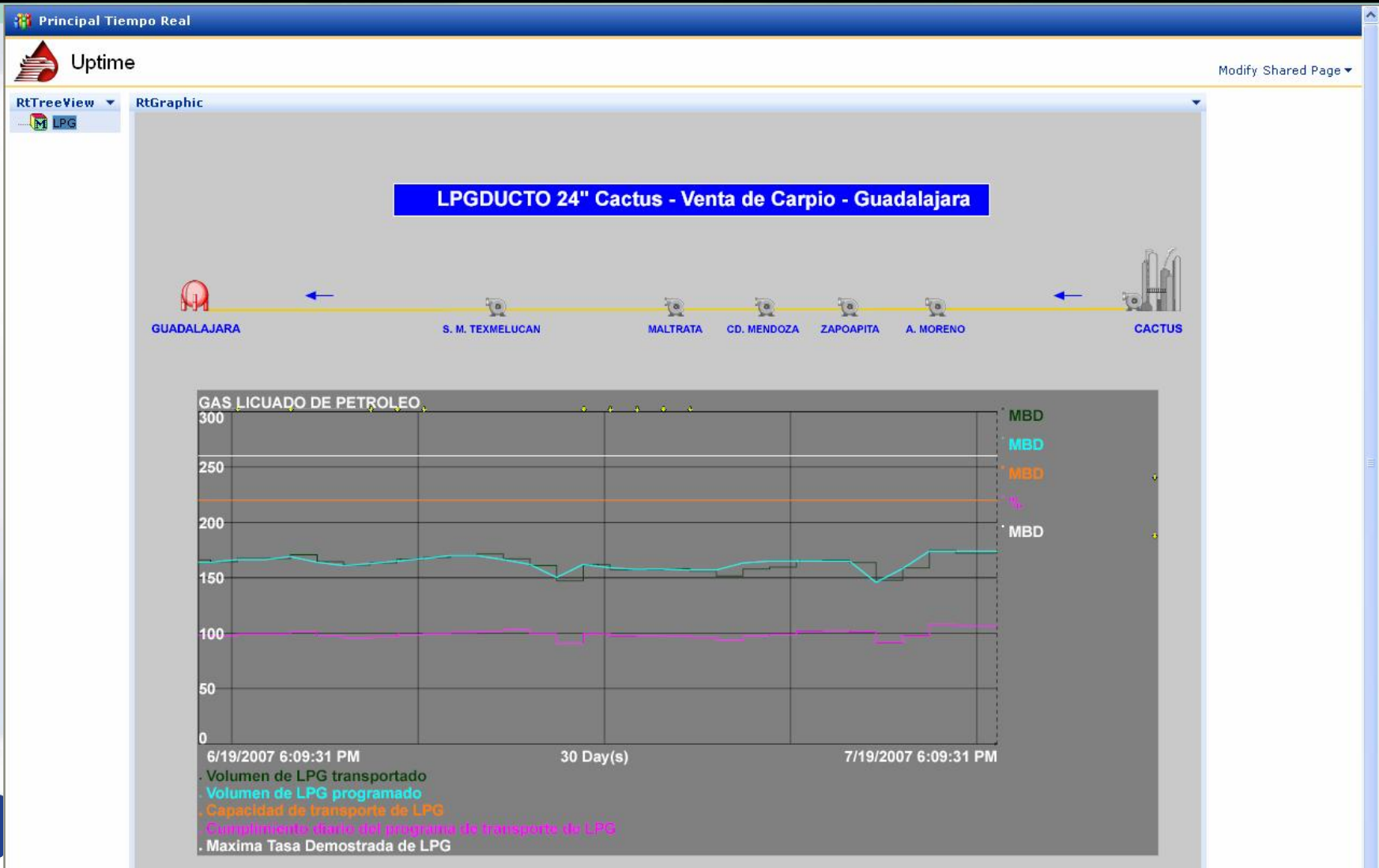
RtTreeView

- SISTEMAS PREF
 - COMBUSTOLEO
 - OLEODUCTO
 - POLIDUCTO
 - AZC-ASA-SATNORTE-SATORIENTE-SA
 - CADEREYTA-MATAMOROS-REYNOSA-B
 - CAD-STACATARINA
 - GP-CHIHUAHUA
 - MAD-CAD
 - MINA-MEXICO
 - MINA-VILLA
 - PROGRESO-MERIDA
 - SALAM-GDL
 - SALAM-MORELIA
 - SALAM-VALEGRE-ZACATECAS
 - STACATARINA-GP
 - STACATARINA-MONCLOVA-SABINAS
 - TULA-AZC
 - TULA-SALAM
 - TUXP-P,RICA-TULA-AZC
 - SISTEMAS PREF
 - SNR
 - TURBOSINODUCTO

RtGraphic



Solutions. Operational Efficiency



Solutions. KPI's

Principal Reporte ejecutivo Reporte detallado

Reporte Ejecutivo

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	PEP				PREF				PGPB Y PPQ		
	REAL (MBD)	PROM (MBD)	POM (MBD)		REAL (MBD)	PROM (MBD)	POM (MBD)		REAL (MMPCD)	PROM (MMPCD)	POM (MMPCD)
Producción Crudo				Proceso SNR	1255	1332	1260	PGPB			
Producción Total	3169	3189	3164	Cadereyta	230	223	220	Proceso de gas en plantas	4441	4359	4380
Reg. Marina Noreste	2094	2108	2073	Madero	162	145	148	Empaque	7178	7288	7237
Ligero	51	50	48	Minatitlán	176	172	172	Importaciones (2)	978	357	300
Pesado	2043	2058	2025	Salamanca	70	188	200	Exportación de gas	271	101	224
Reg. Marina Suroeste	515	524	516	Salina Cruz	305	296	235	CFE			
Ligero	359	363	390	Tula	312	310	285				
Pesado	0	0	0	Cangrejera	165	159	160				
Superligero	156	161	125	Productos		PROM (MBD)	POM (MBD)	Producción LPG	(MBD)	(MBD)	(MBD)
Reg. Sur	467	465	470	Producción gasolina		914	484	LPG en TRP	218	207	211
Ligero	350	348	347	Importación de gasolina		257	313	Producción gasolinas Naturales	384	292	0
Pesado	10	11	11	Producción de combustóleo		300	296	Inyección de Gas Natural Licuado	92	91	90
Superligero	107	106	111	Inventarios bombeables					108	115	128
Reg. Norte	83	82	105	Crudo en refinarias		9058	5881	PPQ			
Ligero	31	31	39	Combustóleo		3526	1383	Producción de Etileno	REAL (TPD)	PROM (TPD)	POM (TPD)
Pesado	62	61	66					Derivados aromáticos	2870	2780	3443
-Almto. Otros Campos	2	1	0					Derivados de Etileno	2450	1825	2481
-Mermas y otros	14	14	15					Derivados de Metano	3021	3202	4045
-Condensados Incorporados	0	1	1					Derivados de Metano	1398	1156	1430
								Derivados de Propileno	217	226	209
Producción de Gas	(MMPCD)	(MMPCD)	(MMPCD)					Inventarios de Etileno	7236		
Reg. Marinas	6268	6272	6154					Inventarios en TREC	325		
Reg. Sur	2213	2221	2098								
Reg. Norte	1398	1385	1414								
	2657	2656	2643								

(2): Naco, K. Morgan, Gloria a Dios, Arguelles y Reynosa

Points solved. Sharing information

- Sharing information

- ▶ Solution is OK but data were not flowing!!!
- ▶ People matters.
- ▶ Forming a group to exchange information.
- ▶ Rules of exchange.

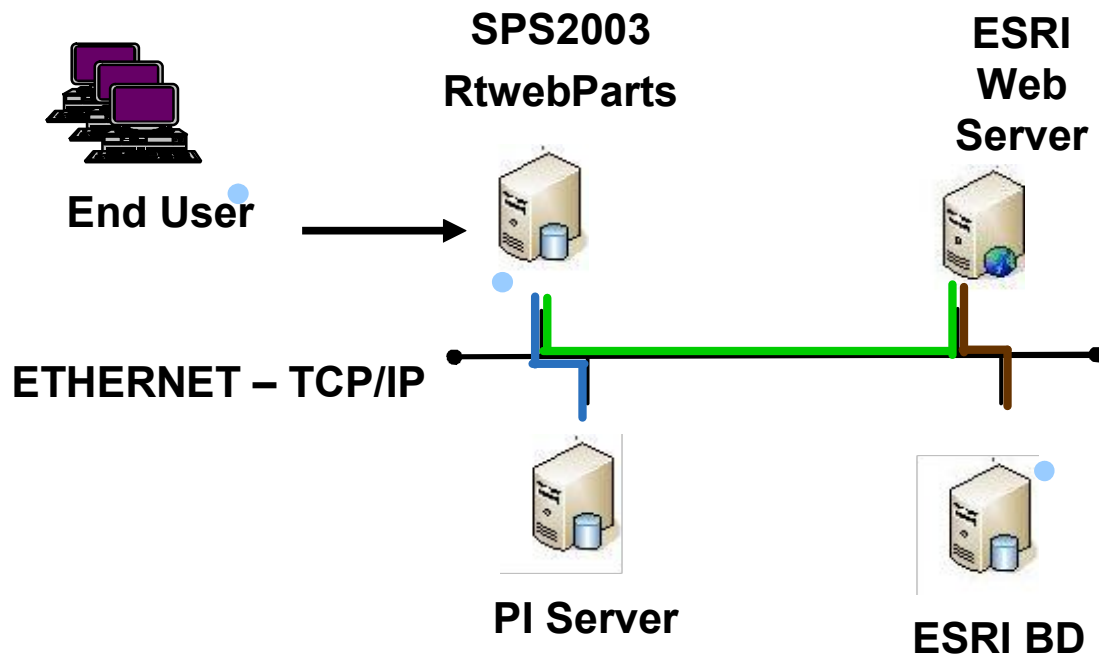


Points solved. ESRI & OSIsoft

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Next steps

- Pipelines & Plants

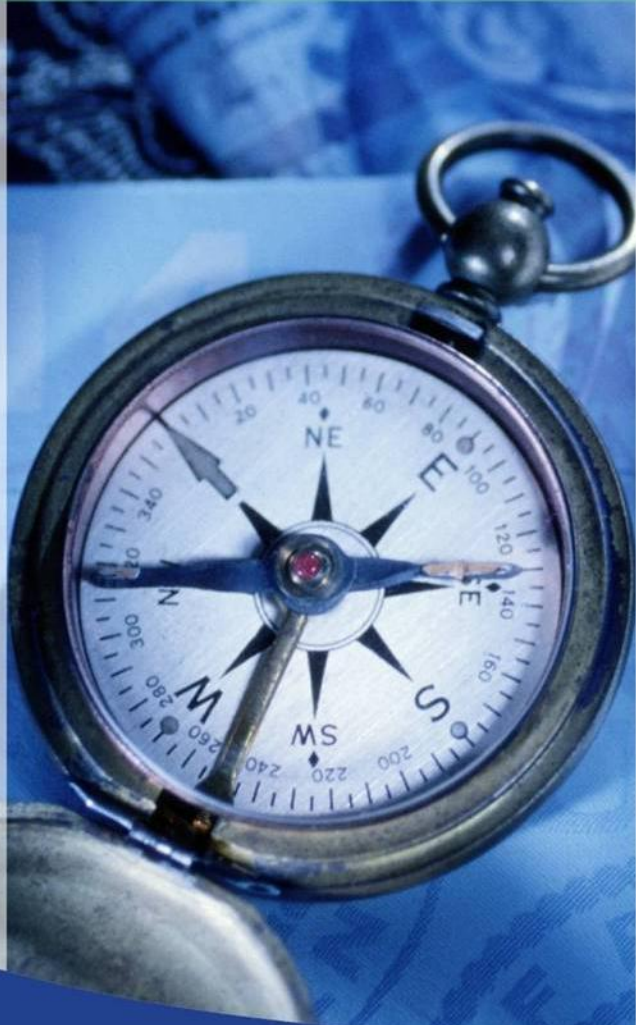
- ▶ Integrate plant & wholesale information
- ▶ Monitoring Productive Chain



Next steps

- Operating Coordination Center
 - ▶ To support logistics.
 - ▶ To coordinate events in case of out of normal operations.
 - ▶ To act as a quick response center in security affairs.
 - ▶ A highly available solution required.





**For your
attention...**

***Thank
You***