

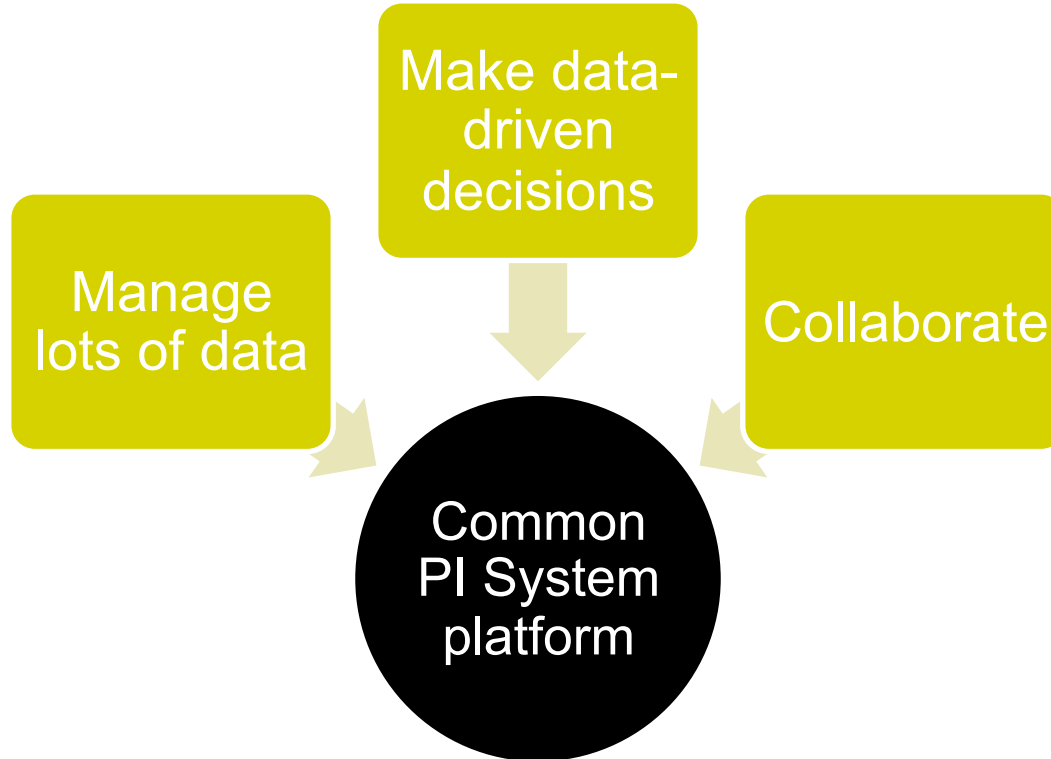


PI System Journey at PG&E

Presented by **David Wolpa**, Electric Transmission, PG&E



Why are we on a PI System Journey?



Spans 4 Lines of Business

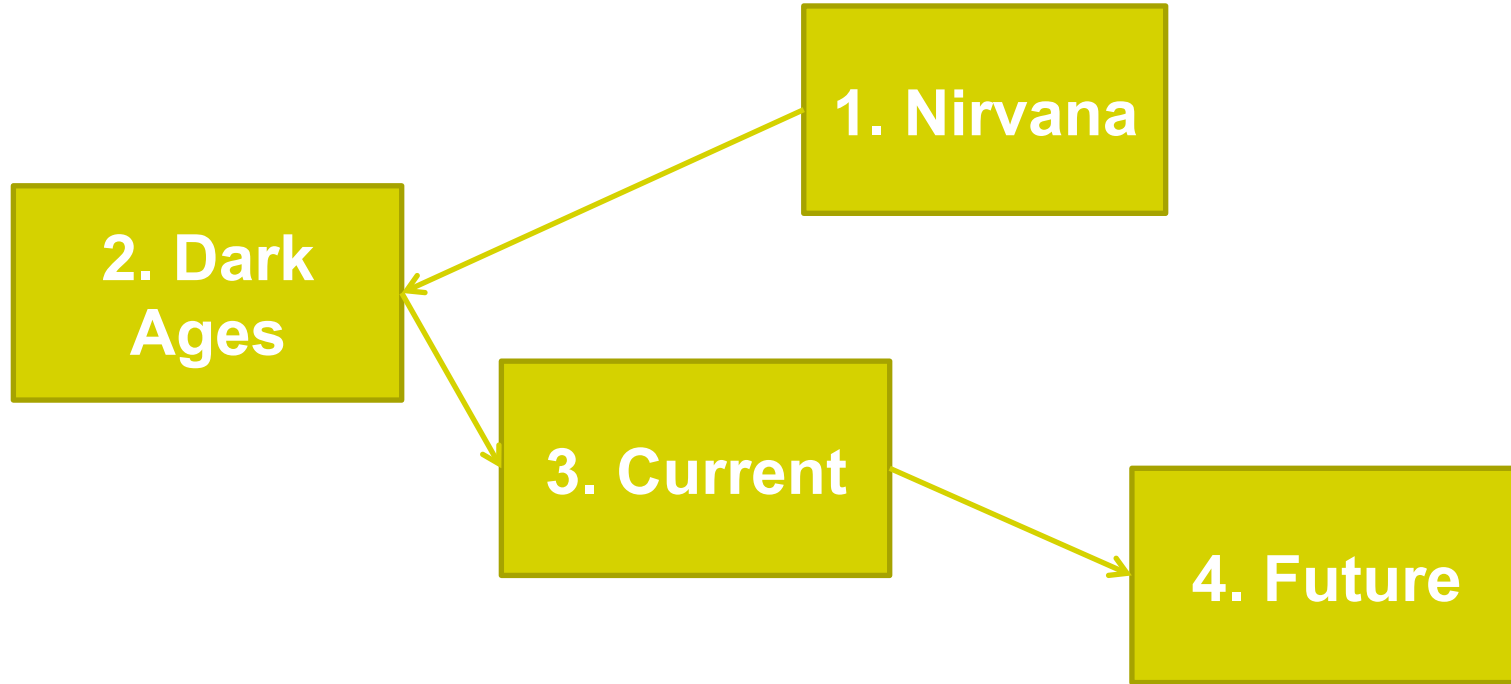
ET Ops.

Gas
Ops.

Power
Gen.

EP

Non-chronological journey





<http://good-wallpapers.com/music/9656>

ET Ops. - Nirvana

Alarm dashboard

- Aggregates alarms across entire PG&E ET grid
- Flow limits change daily so AF is very useful
- Alerts via annunciation and email as limit is approached
- User can click down to drill into data trend

Clue and a Chance = Reliability

ET Ops. – Dark Ages

Gas Ops. - Nirvana

MAOP and MOP Tracking

- Engineer enters MAOP for each pipe segment
- PI System tracks changes
- New MAOP is auto linked to Operators' procedures
- PI System logs MOP, compares to MAOP, and stores

Safety + Compliance

Gas Ops. – Dark Ages

Power Gen. – Nirvana

To Wash or Not to Wash?

- Forecast expected PV production
- Compare to actual PV production
- Determine if O&M issue (warranty or dirt)

\$1M Decision = Cost Savings

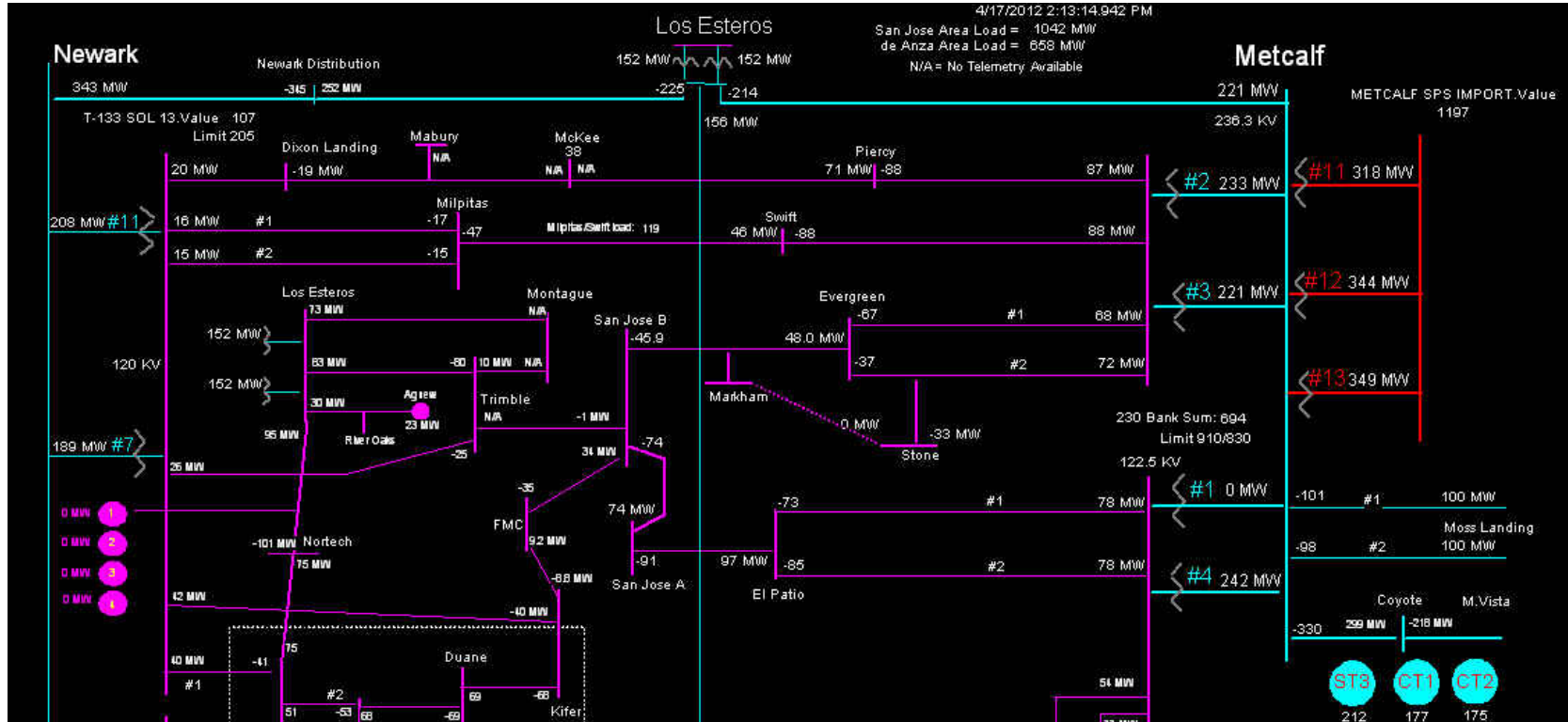
Power Gen. – Dark Ages

Current State

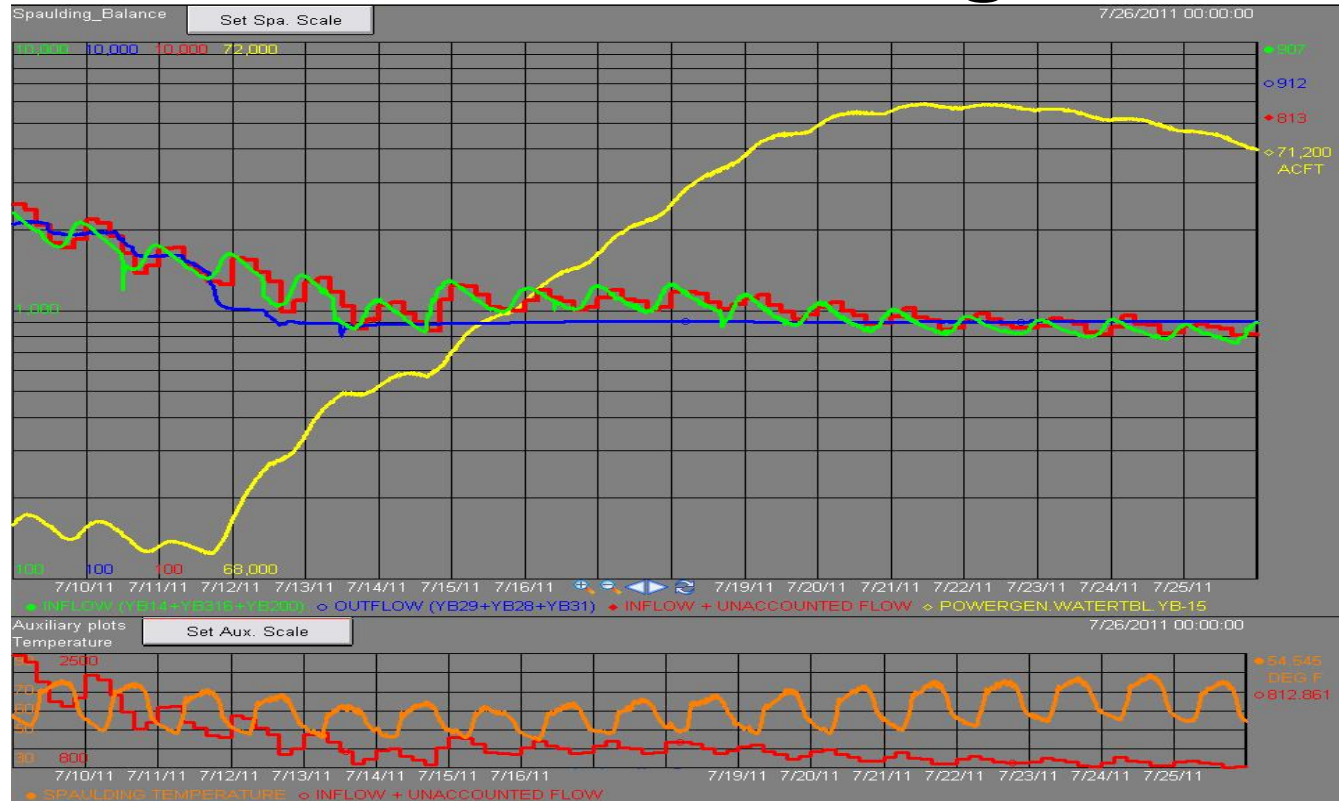
- 600,000 tag PI System platform implemented; scalable to 2M+ tags
- Deployed to ~200 users across four LOBs
- Building value-add “apps” on top of PI System platform



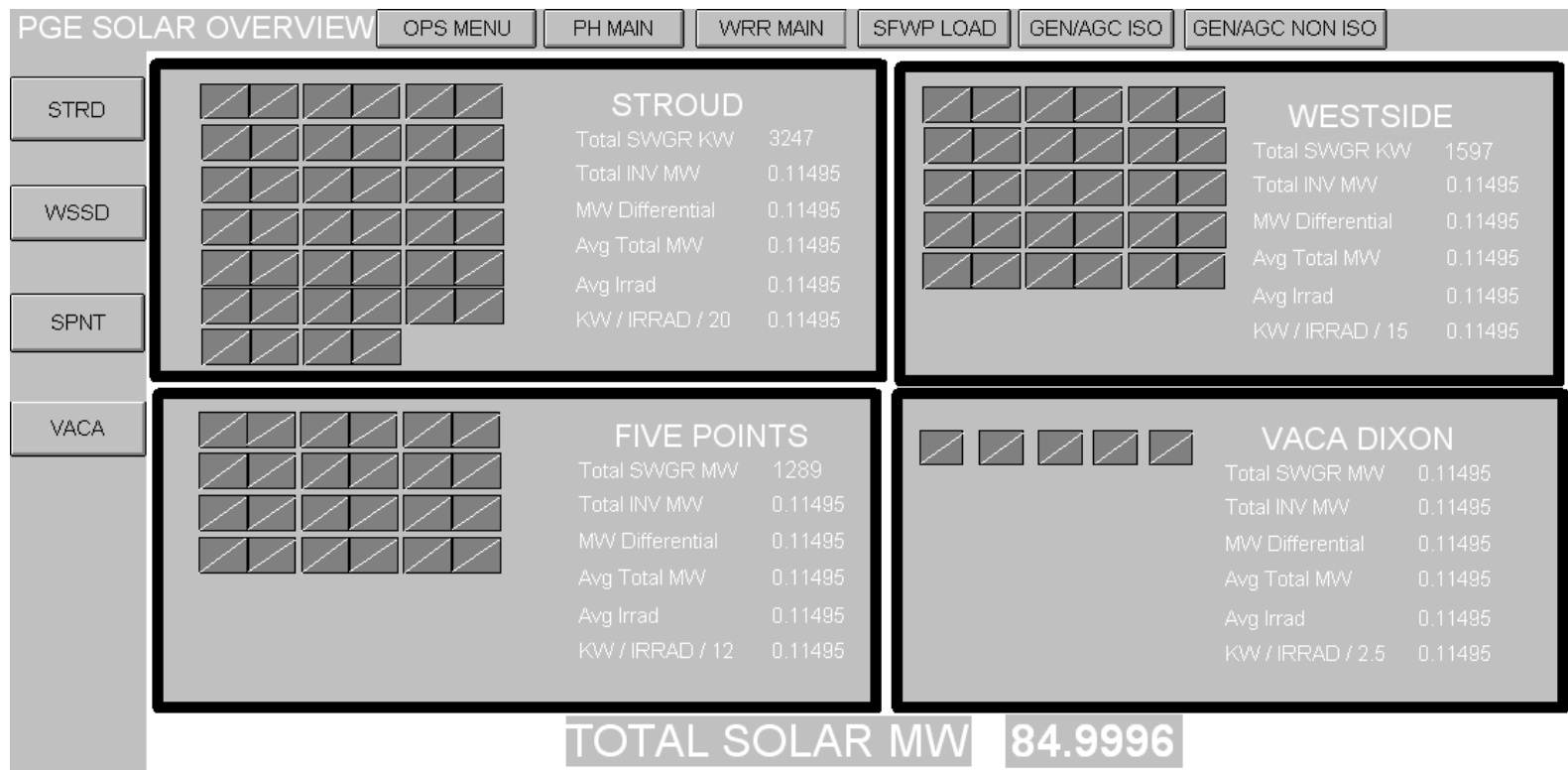
ET Load Flow Monitoring



Hydro Watershed Management



PV Plant Monitoring



Future State

2012

- Build apps.
- More users in existing LOBs

2013

2014+

Future State

2012

- Build apps.
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2013

- Similar deployment in Electric Distribution
- Synchrophasor integration

2014+

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2014+

- CBM and Mobile deployment
- Distribution automation



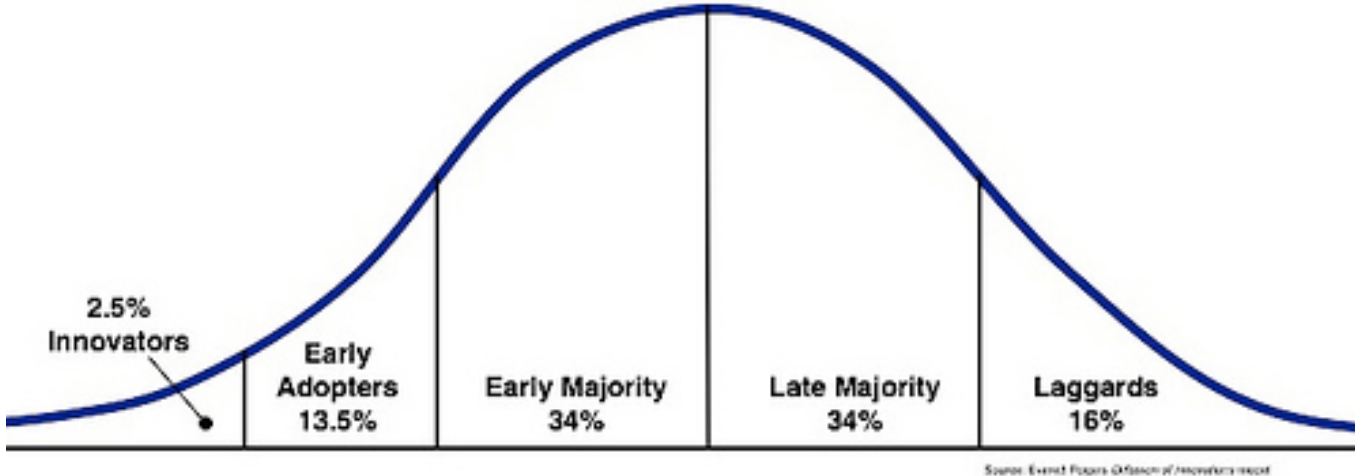
http://articles.businessinsider.com/2011-11-10/news/30381315_1_keystone-xl-president-obama-human-chain

The Gore – Data Loading and Validation

- Importing historical data has taken 5 months longer than expected
 - Slow transfer rates on some interfaces
 - Years of data spread across millions of archive files
 - Inadequate data validation originally

Factor into schedule

The Gore – Phased Deployment



Use case roadmap vs. big bang



THANK YOU

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