

VOYAGE2007



Standardized Infrastructure, Leveraging Best Practice Deployment and Lowering Total Cost of Ownership: Benefits of Implementing an OSIsoft Enterprise Agreement

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Amgen

AMGEN®

OSIsoft®

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VALUE NOW, VALUE OVER TIME

Leveraging OSIsoft Systems

**Somewhere, something incredible is waiting
to be known.**

Carl Sagan

*Data is what allows us to know that we have
arrived.*

Our Mission...

...to serve patients



Marie
Enbrel® (etanercept)



Chanitra
EPOGEN® (Epoetin alfa)



Tony
Sensipar® (cinacalcet HCl)

Amgen: A Biotechnology Pioneer

- Founded in 1980, Amgen was one of the first biotechnology companies to successfully discover, develop and make protein-based medicines
- Today, we're leading the industry in its next wave of innovation by:
 - ▶ Developing therapies in multiple modalities
 - ▶ Driving cutting-edge research and development
 - ▶ Continuing to advance the science of biotechnological manufacturing



Our Values Drive Our Success

Amgen Values

- Be science-based
- Compete intensely and win
- Create value for patients, staff, and stockholders
- Be ethical
- Trust and respect each other
- Ensure quality
- Work in teams
- Collaborate, communicate, and be accountable



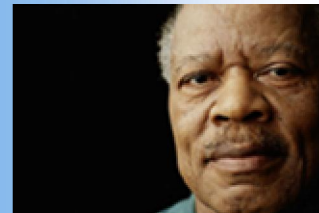
Benefits to Millions of Patients



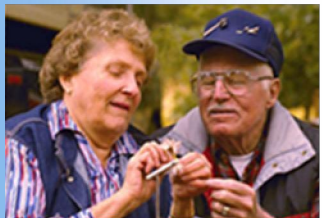
EPOGEN
(EPOETIN ALFA)



Kineret
(anakinra)



Sensipar
(cinacalcet HCl) Tablets
30mg, 60mg, 90mg



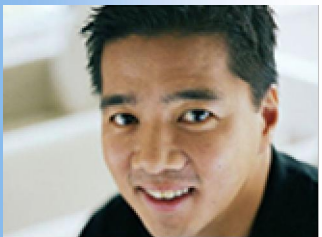
NEUPOGEN
(FILGRASTIM)



Neulasta
(pegfilgrastim)



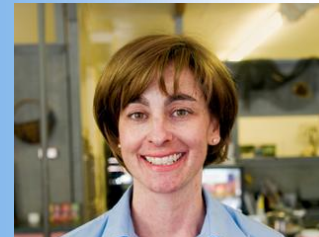
Kepivance
(palifermin)



Aranesp
(darbepoetin alfa)

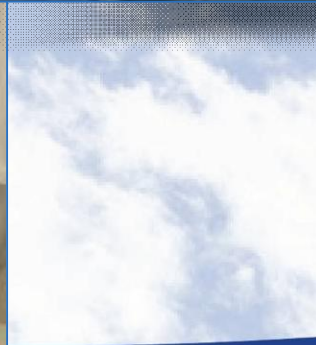


Enbrel
etanercept



Vectibix
(panitumumab)

Leading Biotech Manufacturing



Expanding Manufacturing Base

Rhode Island



Lake Centre



Thousand Oaks



Bothell



Longmont



Puerto Rico



Seattle



Fremont



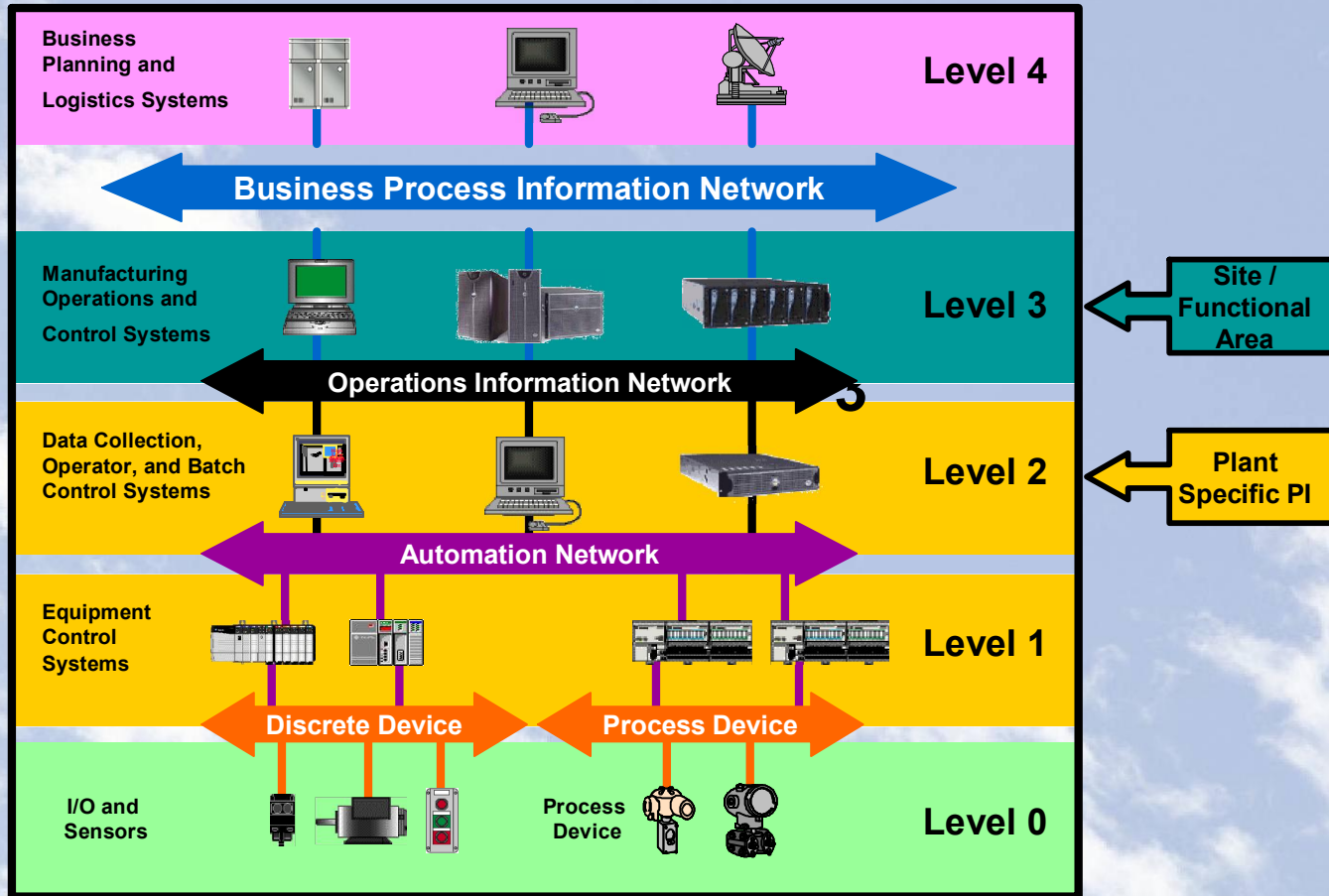
Cork



Amgen's History with OSIsoft

- Amgen selected OSIsoft's PI as our standard data historian platform in 2001
- Corporate pricing agreement in effect from 2001 - 2006
- All manufacturing sites deployed PI to collect process data
- Recently entered into an enterprise agreement with OSIsoft

Enterprise Integration



EA Business Case

- **Opportunity Statement**
 - ▶ OSIssoft's PI widely used
 - Batch report generation
 - In-depth process analysis and optimization,
 - Troubleshooting, investigation, and root cause analysis
- **Business Drivers**
 - ▶ Supports IS Strategy - key component in:
 - Manufacturing IS blueprint
 - Current integration efforts
 - ▶ Cost Savings – decreases overall cost for Amgen

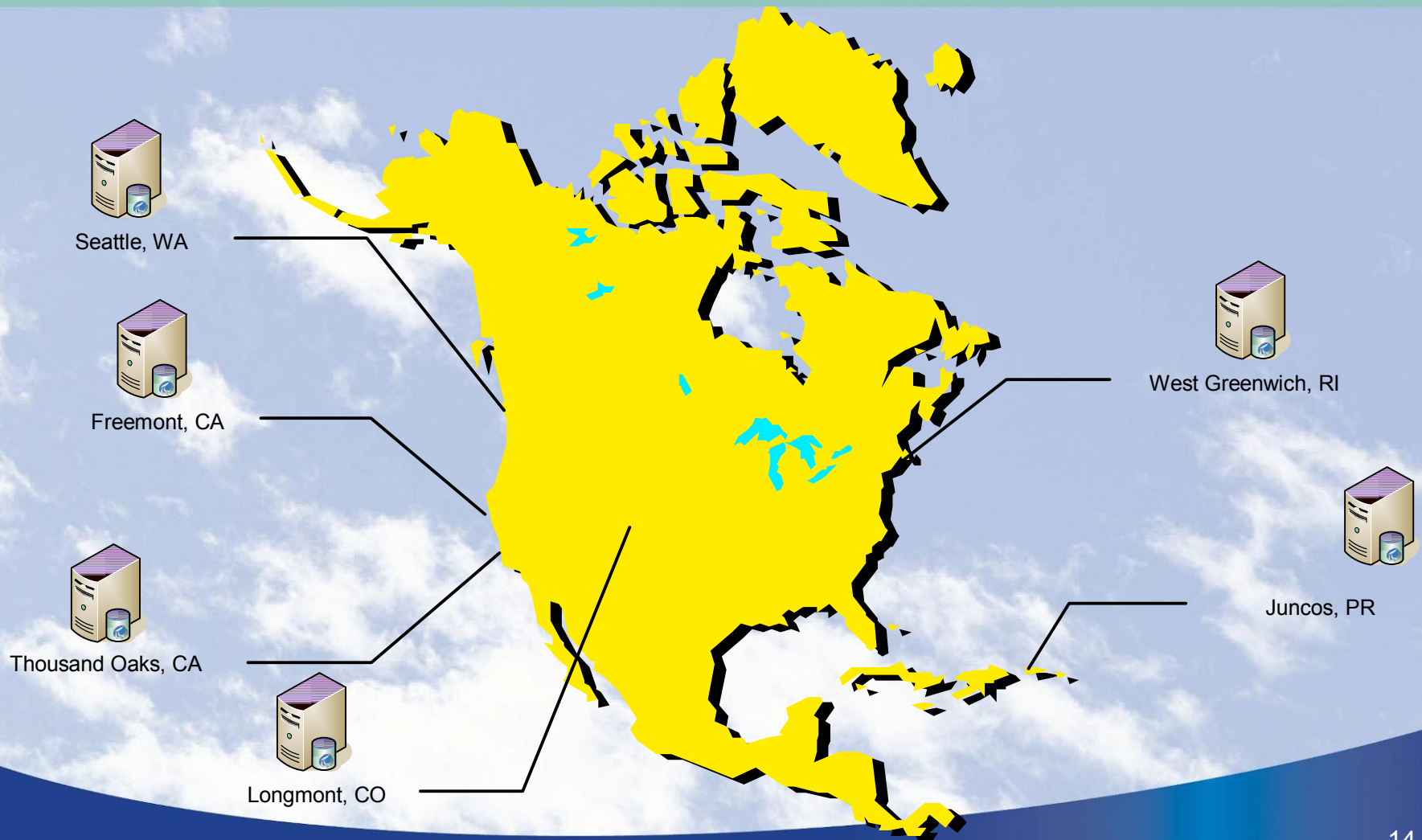
Creating a Positive NPV

- Tag/server based pricing has limited the adoption of architecture required to support enterprise implementations
- Procurement savings by avoiding many POs, managing bids, etc
- Time saved avoiding individual investment justifications and client license management
- Managed PI with remote support will save system administration time



Unquantified Benefits

- All Program Implementation Services by OSIsoft included
- “Managed PI” – 24/7 System Monitoring Application
- Named OSIsoft Program Manager and Enterprise Architect
- Professional services agreement for consulting and architecture guidance
- Increased access to training and user conferences

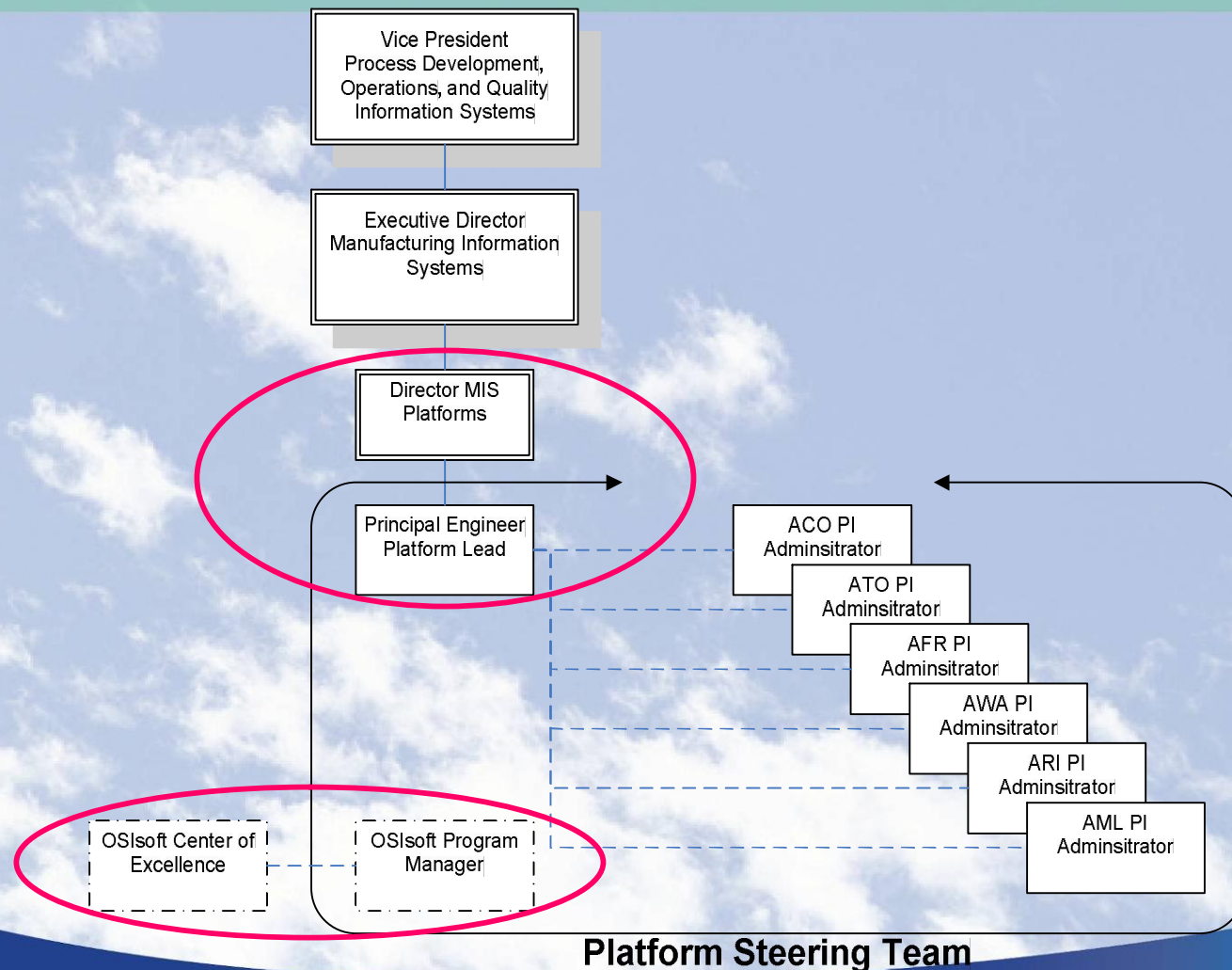
Our Distributed Asset Base



PI as an Enterprise System

1. Dedicate resources to manage the distributed platforms.
2. Establish a governance structure to manage distributed systems.
3. Build a cross site support team to develop best practices.  **OSIsoft Program Manager**
4. Define standard architectures, configuration, and processes.  **OSIsoft Center of Excellence**
5. Measure adherence to standards as a means of assessing risk.

Organizational Structure








Platform Standard

- Based on Industry Standards S88 & S95
- Aligned to Enterprise Architecture Principles
- Driven by Business Requirements
- Establish a Common Architecture
 - ▶ Hardware - build scalable robust storage and retrieval
 - ▶ Software - promote application and documentation reuse
- Direction on Configuration
 - ▶ Tags and Aliases - naming standards
 - ▶ Module Database - equipment model
 - ▶ Batch Database - procedural model
 - ▶ Security
- Process and Procedures for Use and Administration

Giving the Standard Teeth

- *“The best thing about standards is we have so many to choose from”*
- Developed by those that it will govern
- Metrics will promote adherence by identifying elevated risk areas
- Reporting will alert management of potential risks and facilitate mitigation discussions

| | | |
|---|---|--|
| 5 |  | Full technical compliance |
| 4 |  | Acceptable deviation based on current implementation |
| 3 |  | Established workaround w/ upgrade plan |
| 2 |  | Established workaround |
| 1 |  | At risk need upgrade or workaround |

Challenges in Standardization

- Establishing Common Configuration Items
- Determining Limits from Automation Vendors
- Legacy Installations - “if it ain’t broke don’t fix it”
- Establishing a Virtual Team
- Validation and Testing Requirements
- Managing the Change Cycle

Vision for the Future

- Consistent implementations across sites that enables growth and provides resilient data access
- All sites leverage managed PI to monitor system performance allowing us to focus on business process improvements
- Develop a distributed shared support model that reduces replication of testing
- Further the user base skill set to improve data based decision making
- Continue to monitor and assess our progress

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***Thank
You***

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