



NAVAL INVENTORY CONTROL POINT



Information Quality: A NAVICP PERSPECTIVE

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Commander, NAVICP**

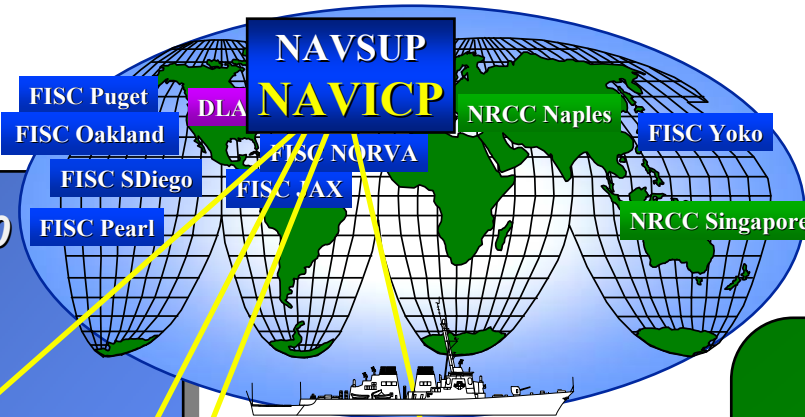
Ready. Resourceful. Responsive!

- ❖ NAVICP... from 50,000 feet
- ❖ Business Environment
- ❖ The ERP Solution
- ❖ Implementation Challenge
- ❖ Improvement Plan
- ❖ Wrap-up

**A Complex,
Worldwide
Network**

Global Supply... Where We Fit

**Delivering Combat
Capabilities
through Logistics**



Product Lines ... All 10

Classes of Supply:

- I Subsistence
- II Clothing, Individual Equip, Tools, Admin Supplies
- III Petroleum, Oil Lubricants
- IV Construction Supplies
- V Ammunition
- VI Personal Demand Items
- VII Major End Items.
- VIII Medical Materials
- IX Repair Parts**
- X Material for Non-Military Programs

Plus:

Transportation

Business Management
Financial Management
Quality of Life

- NEX/Ship Stores
- Household Goods
- Afloat Billeting
- Food Mgt
- Mail
- Disbursing

Mission:

To provide the Navy, Marine Corps, and Joint Allied Forces with quality supplies and services in a timely manner.

57% work force decrease...
FY87 => FY02

One Virtual ICP

A
Smaller
Footprint

SPCC

- Comptroller
- Contracting
- *Operations*
- Planning



NAVILCO

- Comptroller
- Contracting
- *Operations*
- Planning

ASO

- Comptroller
- Contracting
- *Operations*
- Planning



**3 Commands,
2 Sites**

1 Command, 2 Sites

**Maritime
Operations**

**Core
Support
Functions**

**Aviation
Operations**

**International
Programs**

Aviation *Global Business Profile*

- **3,624 Aircraft...20 Platforms**
- **7,404 Aircraft Engines**
- **15 Air Launched Missile Types**



Maritime

- **235 Surface Ships...6 Types**
- **72 Submarines...2 Classes**
- **113 Nuclear Reactor Plants**

Bottom Line

- **Sales ... \$3.68 B**
- **Customer Orders... 604K**
- **Line Items Managed... 412K**

International Programs

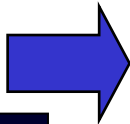
- **Over 80 Countries**
- **2,405 Aircraft**
- **270 Ships**

Where We've Been

A white, stylized cloud graphic with a grey drop shadow, containing the text "Landscape... circa 1985" in red.

Landscape...
circa 1985

- ◆ **Customer Support**
 - ◆ *“Sole Source” niche... no serious competition*
 - ◆ *Bought parts to address failure ... managed inventory*
- ◆ **IT Systems**
 - ◆ *Mainframes... 1960s – 1980s technology*
 - ◆ *COBOL operation programs*
- ◆ **Data Management**
 - ◆ *Reactive approach driven by diagnostic routines*
 - ◆ *Significant manual effort*
- ◆ **Information Services**
 - ◆ *Lots of data ... yet, stovepipe functionality*
 - ◆ *Finance, maintenance, supply not linked ... slow to respond*



Where We've Been

Disparate data bases, suspect data integrity, insufficient granularity

Symptom

**INCREASED
CONSUMPTION**

Question: What is driving increased costs ... why so difficult to answer?

**INCREASED
COST**

Cause

Aging components?
Declining reliability?
Bulletins?
O & I level skill & manning?
Parts availability?
ILS disconnects?
PRE/PRL shortfalls?
FHP execution

Maint. philosophy change?
Depth of repair increase?
Matl usage/cost growth?
New product mix?
Obsolescence?
Overhead fluctuation?
FHP execution?

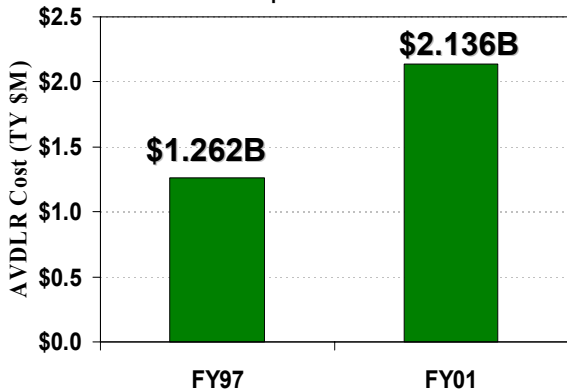
Data Sources

AV3M/ICP/AIR 4.0/NADEPs
AV3M/ICP/AIR 4.0/NADEPs
Program Mgr/ICP/TYCOMs
AMSR Top Level Metrics/TYCOMs
DLA/ICP/TYCOMs/O&I Level
Program Mgr/TYCOMs/ICP
AIR3.0/Program Mgr/TYCOMS
TYCOMS/NAVCOMPT/ICP

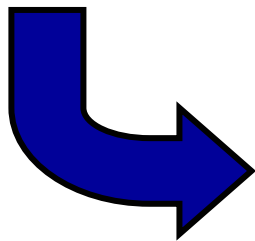
Program Mgr/ICP
AIR 6.0 NADEPS/Com'l contractors
NADEPs/Com'l contractor/ICP
Program Mgr/TYCOMs/ICP
AIR4.0/NADEPs/ICP/DLA
ICP/DLA/NADEP
TYCOMS/NAVCOMPT/ICP

Where We've Been

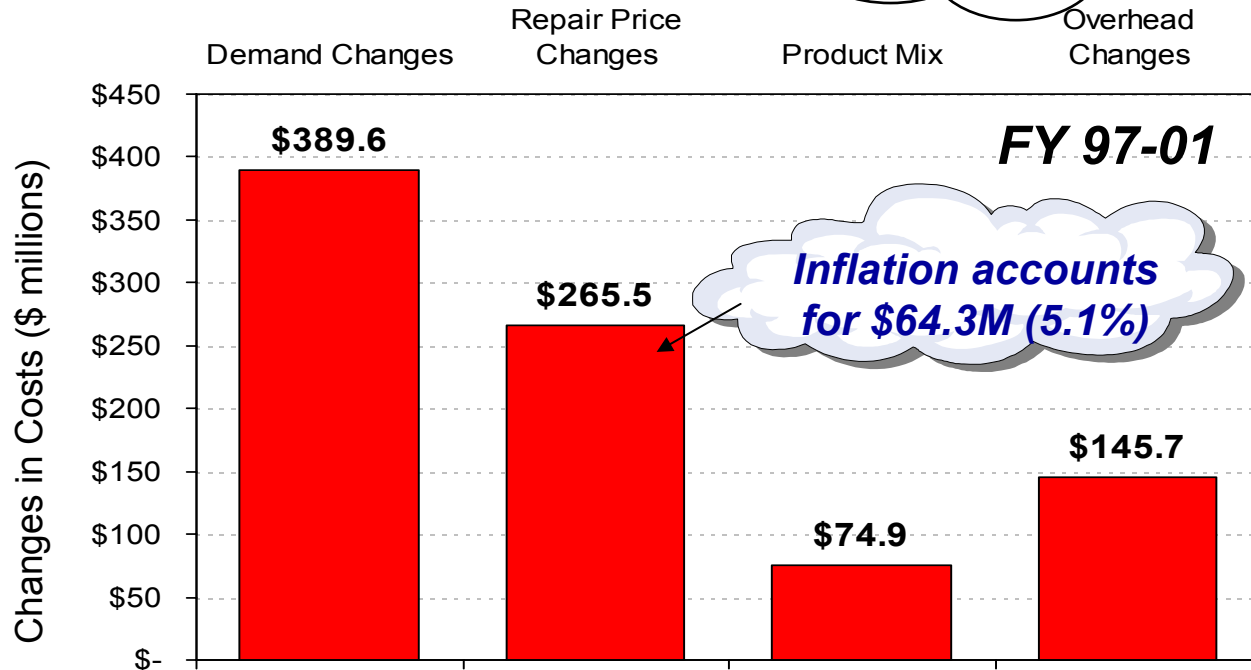
AVDLR Costs FY97 to FY01
+\$874M



NAVICP recorded demand for Flying Hour Program funded customers



We could finally answer the mail ... but it wasn't easy!



Demand increase is 45% of change

Business Environment

**Monopoly to
Competition...
Transfer or Wither**

What Changed

- ◆ No longer the single supplier with a captive customer base
- ◆ Now... we are a competitor who must provide “Best Value” information & services
- ◆ Competition is the new Reality

Mandating

Leaner, more efficient processes, a reduced infrastructure foot print and a modernized IT support structure

Where We Are Going

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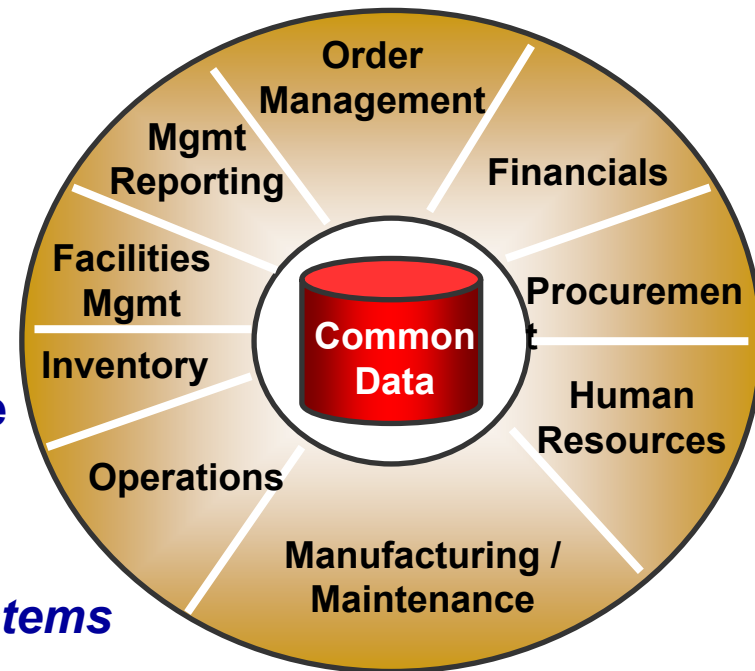
Drive down costs...
create customer value...
compete and win!

- ◆ “Shore-up” the Foundation
 - ◆ *Optimize inventory investments*
 - ◆ *Decrease all cycle times*
 - ◆ *Meet obsolescence/ reliability challenges*
- ◆ Drive Major Transformation
 - ◆ *Increase performance-based partnerships*
 - ◆ *Move to the World-Wide Web... eBusiness operations*
 - ◆ *Migrate from legacy systems support to an Enterprise Resource Planning (ERP) solution*

The Transformation Begins

ERP is not ONLY about IT or software...
ERP is also about how business is done:

- ◆ Modernizes Navy systems and applications
- ◆ Establishes common ashore / afloat processes
- ◆ Establishes single entry – single source
- ◆ Enables eBusiness extensions
- ◆ Creates paperless work flow
- ◆ Eliminates reconciliation with single database
- ◆ Enables financial & cost accounting from same database
- ◆ Provides different views of the business while displaying the same data:
 - ◆ True cost to support discrete weapons systems
 - ◆ True cost of O//D level maintenance
 - ◆ True cost to operate NAVICP



ERP is the pathway from a Systems philosophy to an Enterprise philosophy [4]

Legacy Data Integrity is a key enabler for successful ERP migration and execution

No occupation can be properly conducted unless it has standards...

ADM Hyman G. RICKOVER (RET)

**Reality
Check**

- ❖ How good is Information Quality (IQ) at the NAVICP?
- ❖ How does IQ at the NAVICP compare to others?
- ❖ How is IQ measured (i.e., is there a single aggregate metric?)

Reality Check ... What We Found!

- ◆ **Some IT improvements in paperless process automations ... yet, data quality still dependent on significant manual intervention.**
- ◆ **Standards lowered over time ... review thresholds relaxed ... data corrections prioritized to the critical few only ... systemic improvements gradually abandoned.**
- ◆ **Bottom line: Disparate databases ... suspect data integrity ... limited checks and balances ... complex processes**



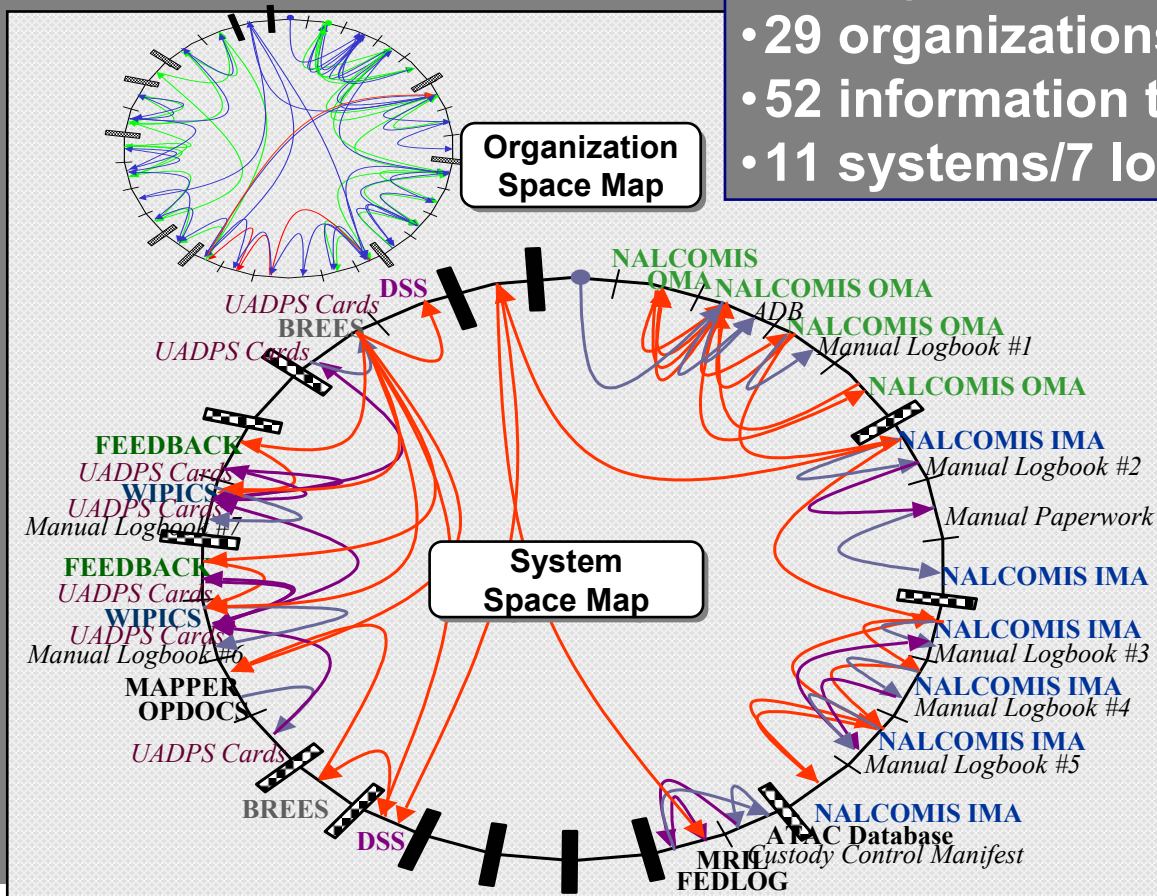
Renewed emphasis required to ready the NAVICP legacy data to achieve full benefits of ERP.

Where We Are

Complex Process Flow

Legacy Systems

- 35 physical moves
- 29 organizations
- 52 information transactions
- 11 systems/7 logbooks



Current State:
This graph maps the movement of a failed component to the repair line and the subsequent replacement in the aircraft which experienced failure.

Where We Want To Be

Organization
Space Map

**Enterprise
Transformation**

System
Space Map

- 15 physical moves
- 15 organizations
- 23 information transactions
- 1 system

How will I get here

Shift the Paradigm

Old World


- ◆ Information is a byproduct
- ◆ Information is owned by the creator/system
- ◆ Information is managed to meet internal needs and
- ◆ Value is in the immediate transaction
- ◆ Quality is defined by the immediate transaction
- ◆ Data quality is not measured

New World

- ◆ Information is a corporate asset
- ◆ Information is owned by the enterprise
- ◆ Information is managed to meet customer needs
- ◆ Value is in current and future use
- ◆ Quality is defined by an enterprise-wide standard
- ◆ Data quality is a universal performance metric

Seek to Understand ... Assess Best Business Practices

- ◆ **Gartner Group**
 - ◆ *Data Quality continually growing concern*
 - ◆ *Common goal is greater automated decisions...*
 - ◆ *Marketplace emerging for data cleansing consulting and software*
- ◆ **Academia**
 - ◆ *MIT's TDQM Consortium on Data Quality*
 - ◆ *World leader in developing the "science" of data quality*
 - ◆ *Manage data as a product... TDQM Cycle*
- ◆ **Commercial Industry**
 - ◆ *Focused on companies who have implemented ERP*
 - ◆ *No standards... Widely differing approaches and priorities*
 - ◆ *Data cleansing difficult, complex, labor intensive... yet necessary for success*

A white, fluffy cloud with a grey drop shadow, containing red text.

Assigned a dedicated, full-time Ops Research Officer to IQ

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Data Quality is a common challenge for many but, few standards exist

Reduce Manual Correction

- ◆ **Integrated Computer Aided Provisioning System (ICAPS)**
 - ◆ *Compiles provisioning business rules into one system to support initial item establishment*
 - ◆ *Provides mechanized data generation logic to preclude manual data inputs*
 - ◆ *Facilitates electronic processing of provisioning technical documentation from the Original Equipment Manufacturer (OEM)*
- ◆ **File Maintenance Tool (FMT)**
 - ◆ *Compiles the database maintenance rules of the NAVICP into one operational system for source data entry and updates*
 - ◆ *Provides more restrictive input edits and validations*
 - ◆ *Facilitates an environment for accurate generation of data*

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Focusing on root cause analysis for process improvement



Improvement Plan

NAVAL SUPPLY SYSTEMS COMMAND HEADQUARTERS

Scorecard Approach

Data / Information Quality Metrics Report								
Code		Total Errors Corrected	Total Errors Identified	Quality Improvement Rating				Comments
				Q4/02	Q3/02	Q2/02	Q1/02	
Group A	↑	3,730	3,842		97.1%	5.2%	N/A	Carcass Tracking DENS
Group B	↑	32,288	97,000		33.3%	46.2%	N/A	ITIMP and Dynamic DENS
Group C	→	22,364	237,936		9.4%	12.6%	21.0%	
Group D	→	N/A	N/A		15.0%	10.0%	N/A	FMT / ITIMP / TITAN *
Group E	↑	5,030	8,433		72.7%	24.5%	39.9%	
Group F	↑	236	982		24.0%	52.9%	N/A	MILSTD-2073.1D
Group G	↑	1,501	5,712		26.3%	21.0%	N/A	CRCS / CAD
Group H	↑	813	5,260		49.5%	37.3%	N/A	
Group I	→	169	3,363		5.0%	25.0%	N/A	
Quality Improvement Rating (QIP) Legend:								
20.0% - 100.0%		Green	* Project Completion Status					
5.0% - 19.9%		Yellow						
0.0% - 4.9%		Red						

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Outstanding Achievement and Excellence in Information & Data Quality Award

- ◆ **Sponsored by Senior Executive Management**
 - ◆ **Quarterly frequency**
 - ◆ **Write-up in corporate newsletter**
 - ◆ **Quality Improvement Rating (QIP) is performance metric**
 - ◆ **Photo with senior management**
 - ◆ **Award delivered within work spaces**
 - ◆ **Perpetual plaque maintained in executive suites**

*That which interests
my boss fascinates
the hell out of me.*
RDML MD Harnitchek

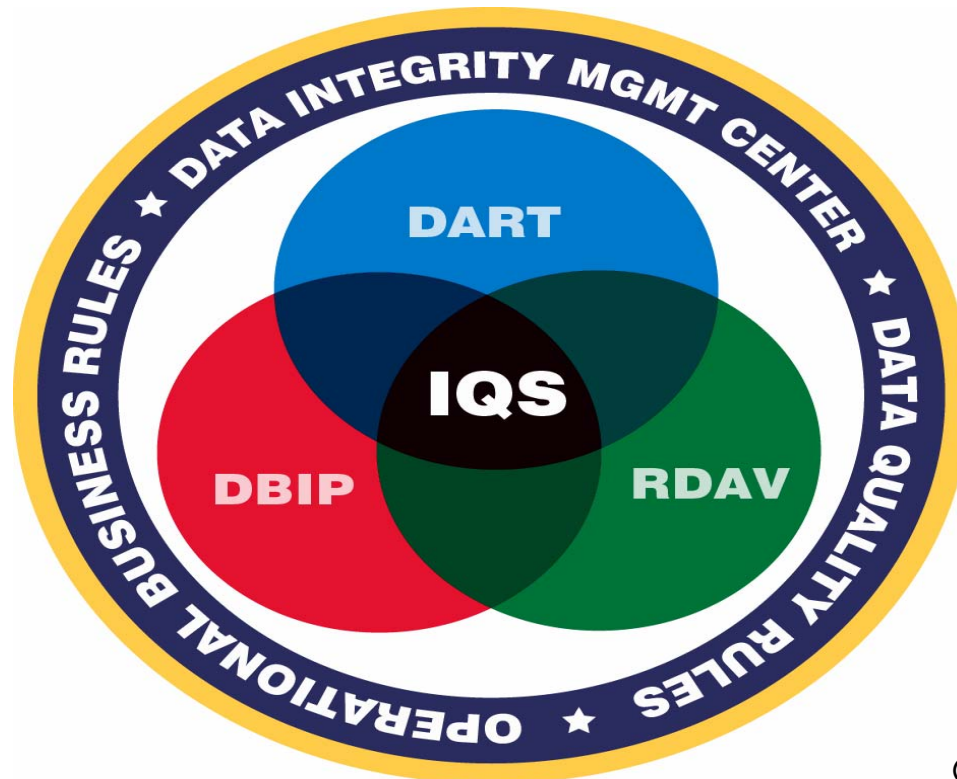


Organize for Success... Data Integrity Management Center (DIMC)

**Info-Centric Quality Management (ICQM)
Circles of Excellence**

Information
Quality Support

Data Accuracy
Review Training



Database
Integrity and
Policy

Research,
Development,
Analysis and
Validation

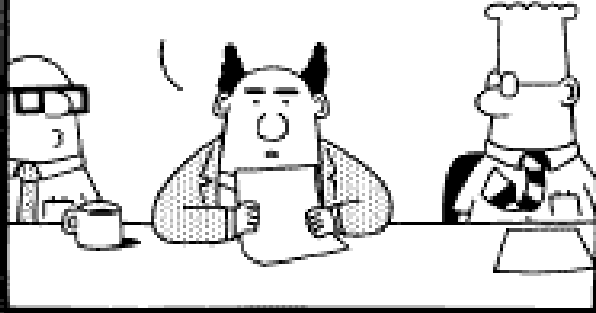
- ◆ NAVICP committed to a successful ERP implementation...
“Go Live” Pilot
- ◆ ERP creates a One System – One Database – One Touch capability for our customers
- ◆ Information Quality emerges as a critical factor for business success in the ERP environment
- ◆ Data is now treated as a universal and valued resource within the enterprise
- ◆ The Data Integrity Management Center is our physical commitment to Information Quality at the NAVICP

GOAL

**Deliver effective, best value combat capability
to the war fighter**

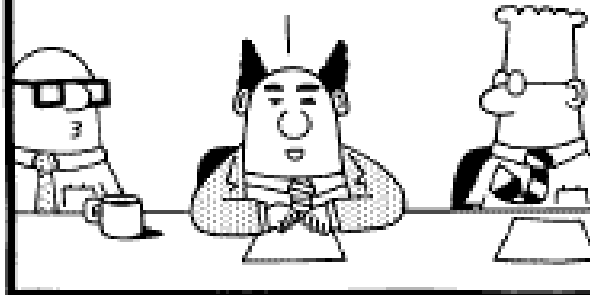
Where I don't ever want to be again!

ALL OF OUR DATA IS GROSSLY INACCURATE... BUT I NEED DATA IN ORDER TO MANAGE.



www.dilbert.com scottadams@aol.com

IF I CONCENTRATE HARD ENOUGH I CAN FORGET THAT THE DATA IS BAD, THEN I CAN USE IT.



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I HAVE TO GIVE HIM CREDIT; MANAGING IS HARDER THAN IT LOOKS.



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Adapted from excerpts provided by

Dr. Peter Aiken, *IDATAR* [2]

Ready. Resourceful. Responsive!

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- [2] Aiken, P., *Slaying the Legacy Dragon and various discussions.*
- [3] Davidson, Bruce N., *Various discussion on organizational job descriptions.*
- [4] Dobbs, S., Orr, L.; *Information Quality at the NAVICP.*
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