

# Unique Item Identification



*Where is this train headed?*

Frank L. Prabel III

Boeing Aerospace Support – Supply Chain Services  
Strategic Planning & Business Development

# The Mandate -

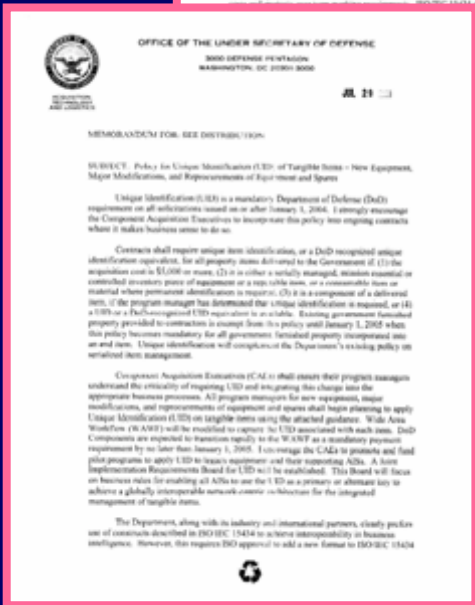
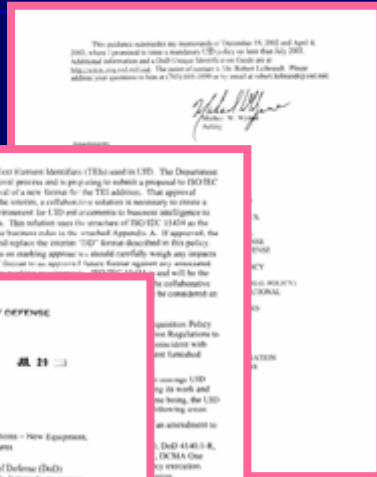
July 29, 2003

Unique Identification (UID) is a mandatory Department of Defense (DoD) requirement .....

Michael W. Wynne

*A Defining Moment in History!*

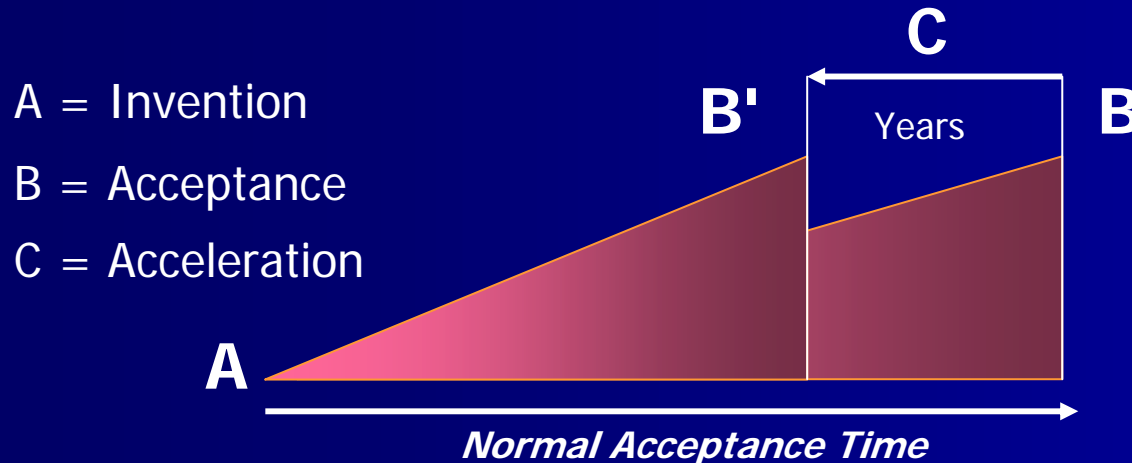
*- at least for information technology*



# The Mandate -

## Unique Item Identification

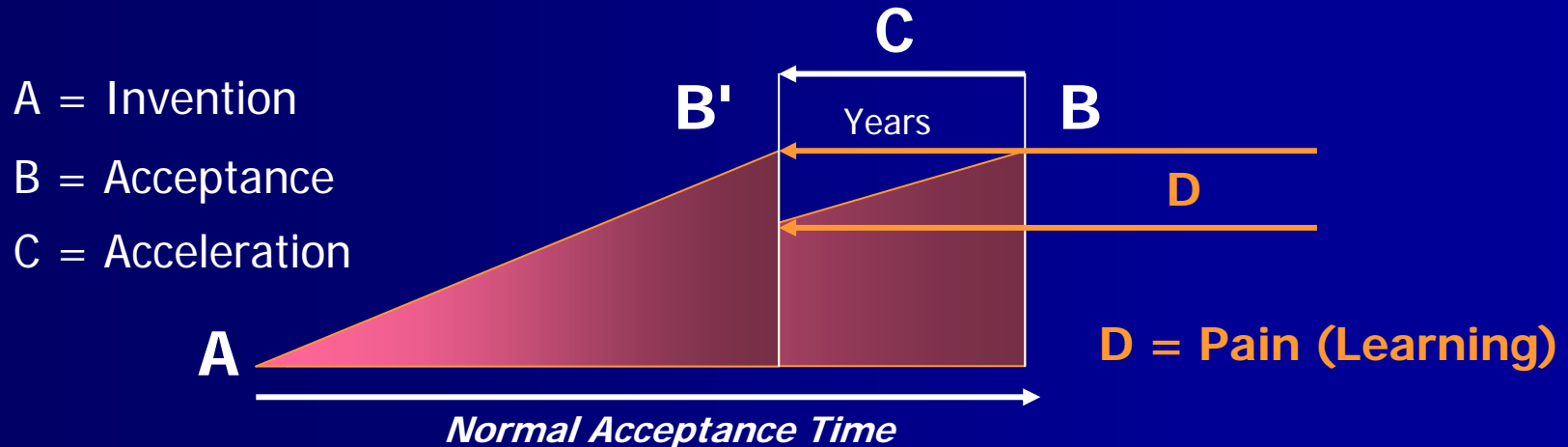
- Fundamentally changed how we will do business
- Accelerated the technology acceptance curve
- Is not free



# The Mandate -

## Unique Item Identification

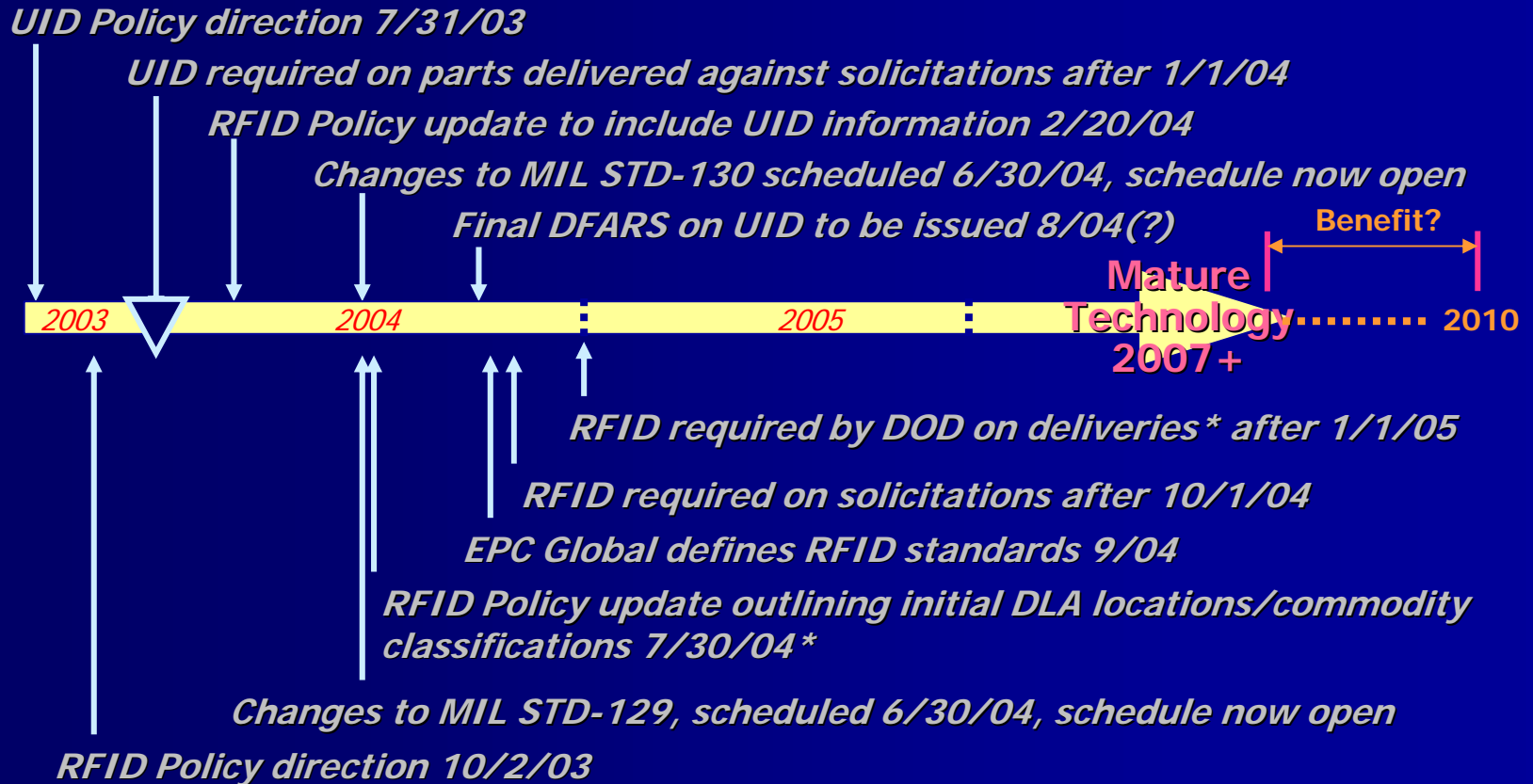
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# The Pain Continuum -

## An RFID/UID Chronology

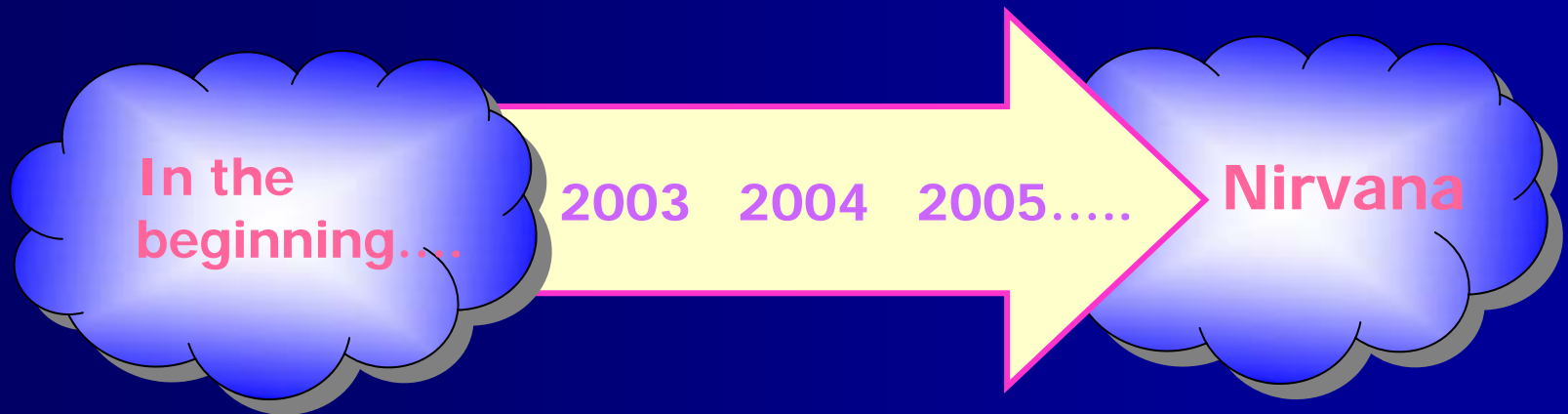
...and Immediate Concerns



\* To Susquehanna and San Joaquin Depots Commodity Classes I, II, VI, IX only

# Unique Item Identification

A never ending journey .....



# Unique Item Identification



Perfect knowledge of product identity!

*- Better than DNA code analysis*

# Unique Item Identification

What is “perfect product knowledge”?

***It's undisputed truth !***

- Trusted confirmation of what things are, or aren't
  - Configuration
  - Maintenance
  - Supply chain
  - Other areas..... ***But!***

*Benefits accrue only when integrated  
into an Enterprise Information System.....*

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When integrated, will facilitate readiness & safety!

- 1200 M60 tanks taken out of service for defective gun mount bolts (no date provided in reference)
- In 1987 fasteners slated for installation in U.S. Navy aircraft carrier catapults, nuclear submarines and the Bradley Fighting Vehicle turned out to be counterfeit

Source: Michael Valenti, Associate Editor Mechanical Engineering 2/93

# Unique Item Identification

Is not the end state, it's an enabler -

In the beginning....

*There was the pencil ....*

*and it was lacking!*

largely because it was operated by a person....

who made mistakes!

A miracle happened -



*This too was lacking - same reason as the pencil*

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*How observant are you !*

What was the name of the company that manufactured the computer on the previous slide?

# Unique Item Identification

Other solutions emerge to reduce input errors -

## *Machine Readable Code*



Foil Barcode Labels

Polyester Barcode Labels

Aluminum Barcode Labels

UID / Spec 2000 Labels

Fixed Asset Software

Nameplates

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*We are making progress -*

***But still not there -***

- Tags & labels can fall off
- Packaging can become separated from contents
- Tags, labels, and RF buttons can become soggy



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*On the right track.....but still not quite....*

## CH 47 - New Build Marking



Current



LABEL

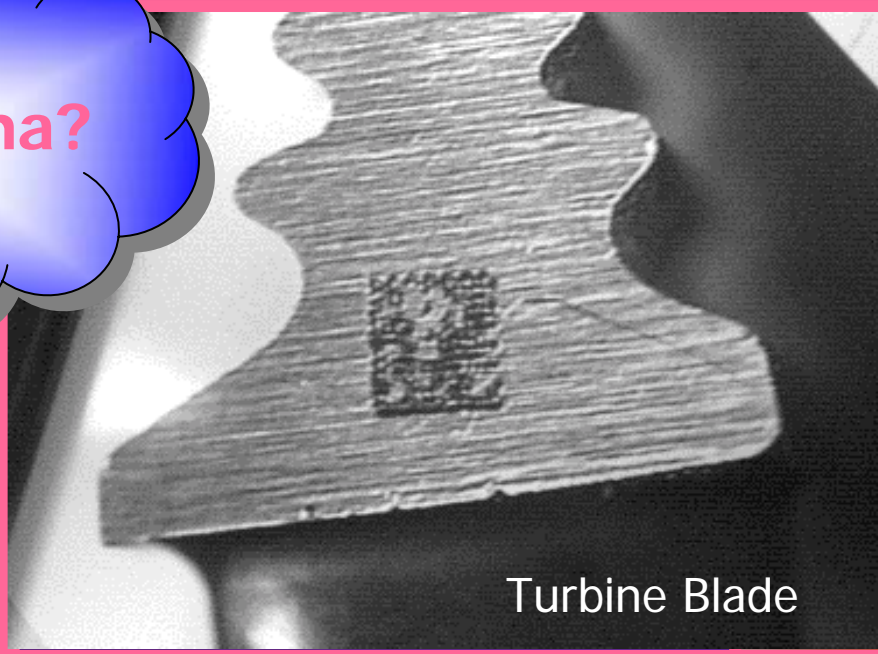


New

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*Looking much better and with a little time.....*

*Is direct parts marking the solution?*



# Unique Item Identification

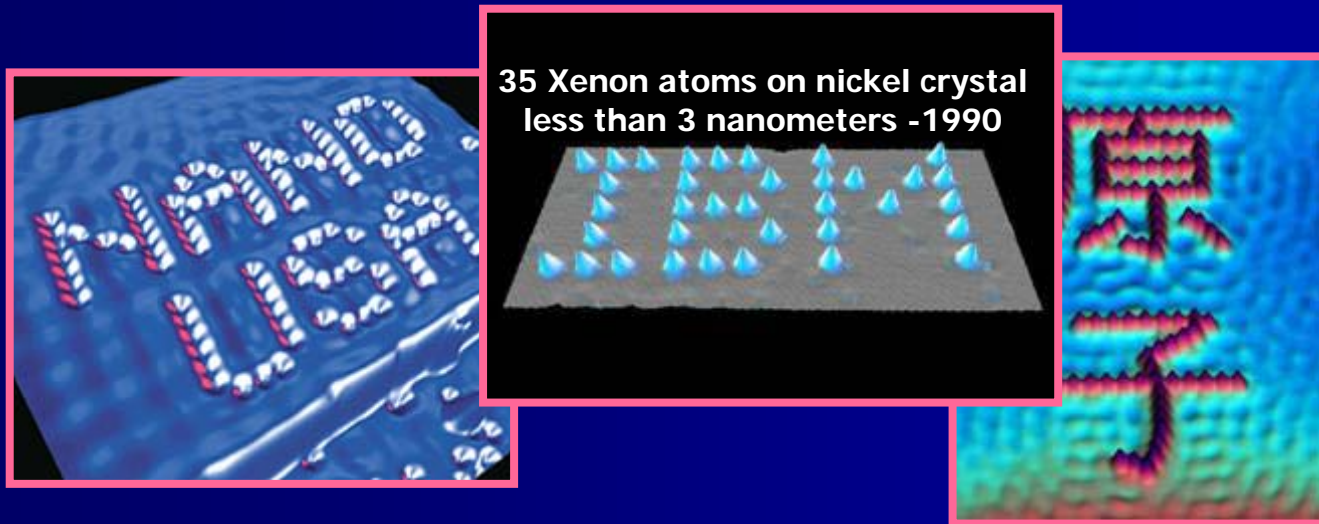
*Does nanotechnology have a role?*



Nanometer: Ten shoulder-to-shoulder Hydrogen atoms (blue balls) span 1 nanometer. DNA molecules are ~ 2.5 nanometers wide.

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*Can the nanosciences achieve UID Nirvana?*



Technology has never had this kind of precise control; all of our technologies today are bulk technologies. We take big chunk of stuff and hack away at it until we're left with the object we want, or we assemble parts from components without regard to structure at the molecular level. Precise atomic level fabrication has previously only been done by living biological organisms.

- John Walker 1990

# Unique Item Identification

## Summary: Thoughts at the bottom line -

- The time is right for UID implementation
- Benefits to the maintainer will not begin to materialize until ~ 2010
- UID is not free; there is a cost to marking parts
- Cost savings will be realized only if the information is integrated into an enterprise level information management system
- Unknowns - We don't know, what we don't know
- UID will achieve improvements but we don't know what issues lurk under the surface





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*For ever new frontiers .....*