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**Mike Dazio**

V.P. Marketing and Business Development

732 667-1080 ext 116 work

908 403- 0610 cell

[mdazio@datatekcorp.com](mailto:mdazio@datatekcorp.com)

[www.datatekcorp.com](http://www.datatekcorp.com)



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# To Life Cycle Management or Not to Life Cycle Management

Is that the Question????

And

Hello to the Smart People



# Objective

- Empower people
- Think out of the Box
- Change the way you view Life Cycle Management
- Be Creative/Be Passionate
- Be Proactive
- Get results
- Have Fun

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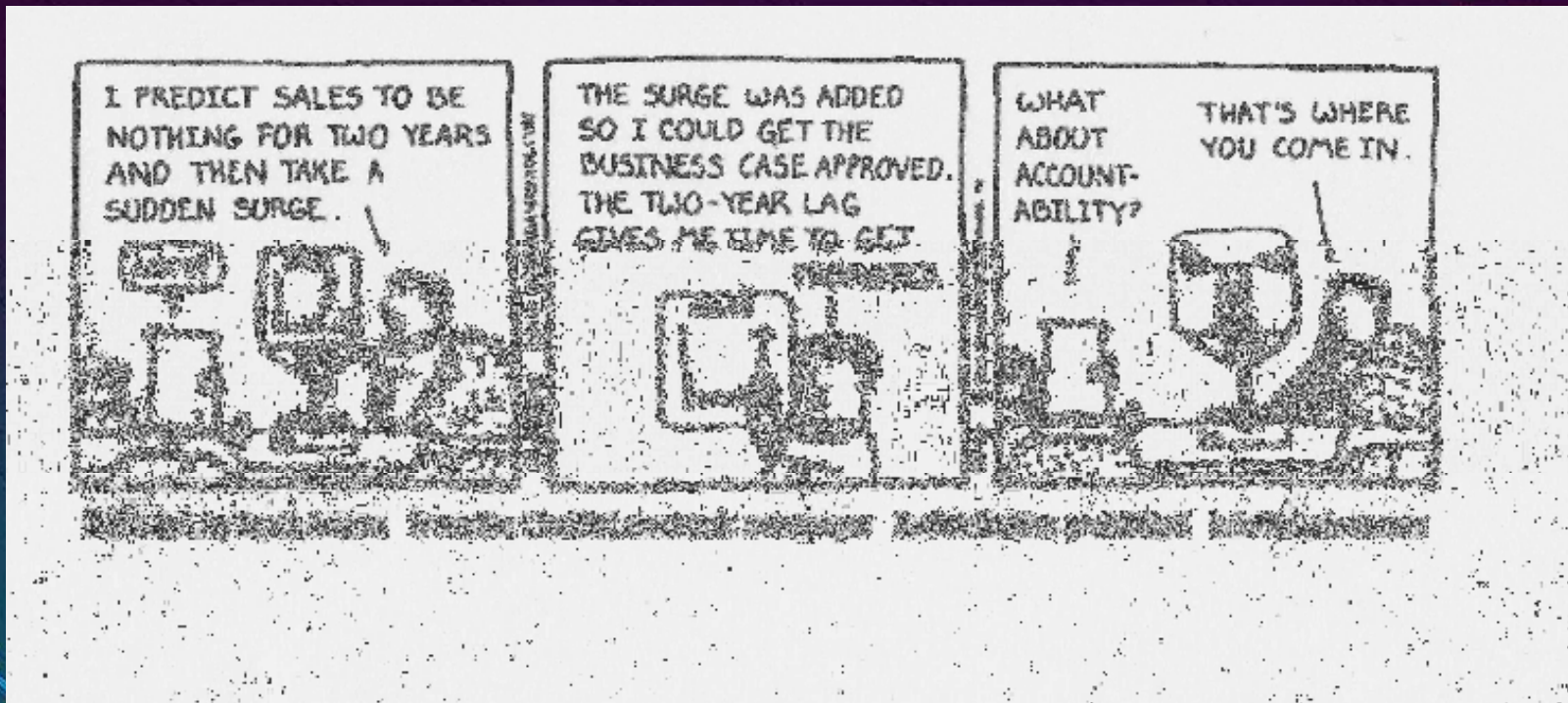
# Agenda

- How did I get here?
- Where did I come from?
- What did I learn?
- What don't I know?
- Where are we today?
- Background on Datatek

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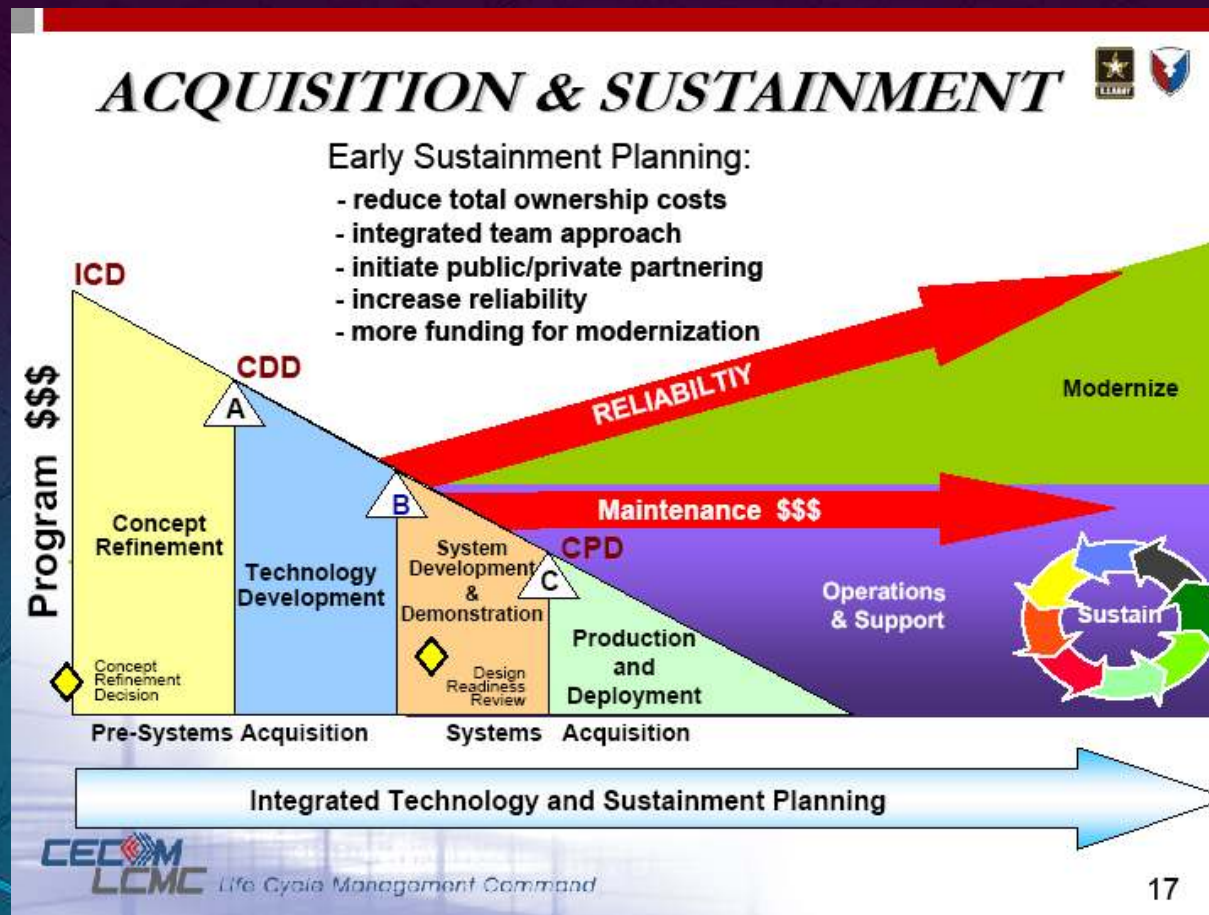


# How did I get here?



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# TYAD Presentation



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# Life Cycle Management

- **Army to upgrade Firefinder radar systems**
- A joint venture between Raytheon Co. and Thales Group will upgrade Army Firefinder radar systems under a \$217 million contract.
- Thales, Raytheon Systems will furnish modification kits and power amplifier modules as part of an improvement program for the AN/TPQ-37 Firefinder weapon-locating radar, company officials said.
- The joint venture will build, integrate and test upgrade kits for the AN/TPQ-37 radar, after which the Tobyhanna Army Depot in Pennsylvania will install them.
- The AN/TPQ-37 is a long-range weapon-locating radar used by the U.S. Army and 11 other countries.
- **The Firefinder improvement program addresses changing needs and integrates new technology to guard against increasingly sophisticated threats. The comprehensive upgrades should extend the life of the radar to the year 2030, company officials said**

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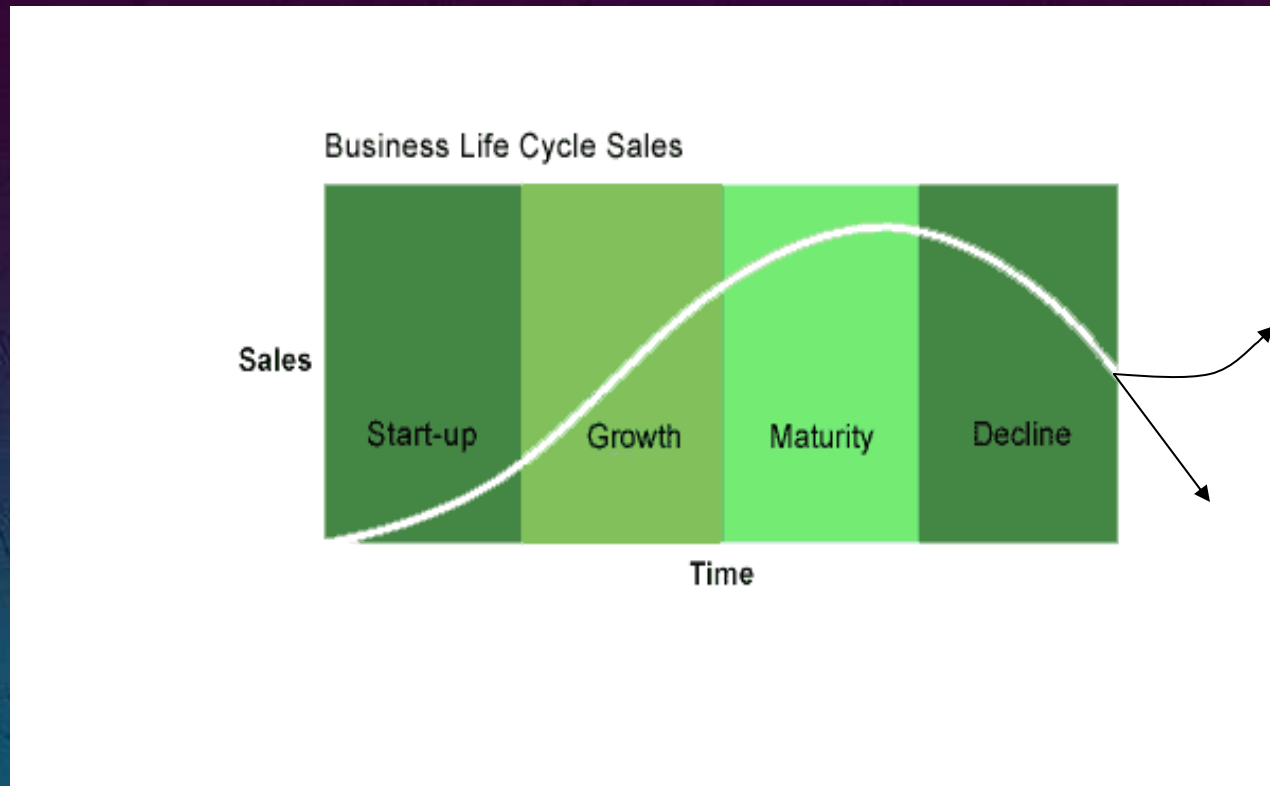
# Where did I **come** from?

- I've been a *Product Manager* for AT&T/Lucent for 25 years
  - Data and optical networking space
  - Have managed the entire lifecycle from start up phase to legacy phase
  - Driven by customer and financial metrics
  - Firm believer in extending the life of legacy products thru creative innovation and partnerships

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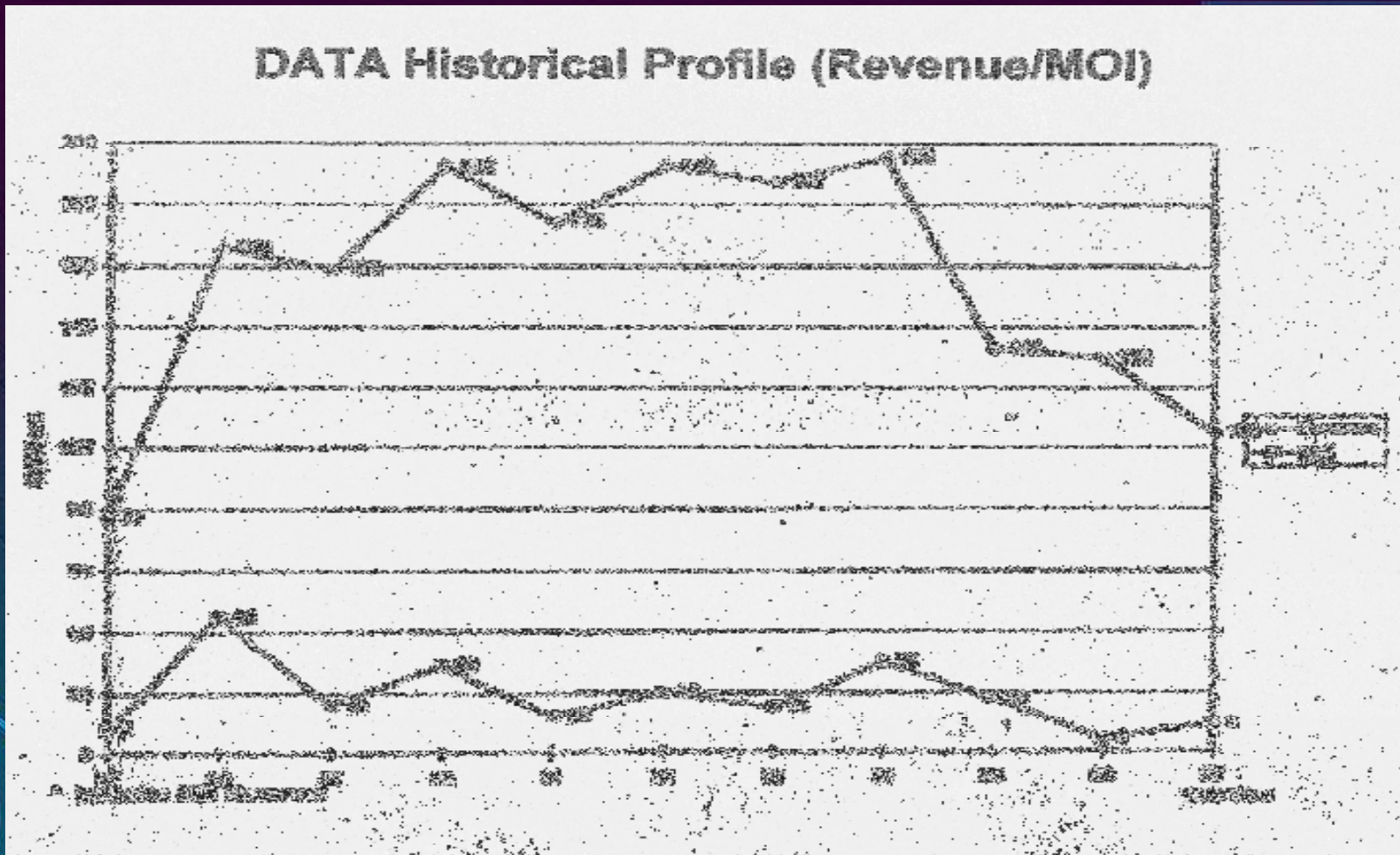
# Life Cycle Management



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# Where did I come from?



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**INCOME STATEMENT BY PRODUCT  
BROADBAND MULTIMEDIA NETWORKING  
YTD FEBRUARY, 1997  
(\$500'S)**

SALES, BGP, GROSS MARGIN
SALES
STD COST
BGP \$
BGP %
VARIATIONS

DATA	PLAN (D)	DELTA
72,502	67,671	4,831
38,458	34,644	3,814
34,044	33,427	617
47%	49%	-2%
(4,698)	-	(4,698)



APPLICATIONS, INC.

# Where did I come from?

## Objective: Increase Data Products OROS to 20% Cost/Expense Reductions Options

- COGS Cost Reduction
  - Understand Standard Cost
  - Business Case for all cost reductions
- R&D
  - Reduce Infrastructure Cost (Non-Feature Developments)
- Maintenance Support
  - Reduce Support Expense i.e.:
    - Combine Current Engineering with CAC
    - Eliminate, consolidate and/or outsource non-essential functions - i.e. business management, billing, RAC, training manager
    - Minimize (to satisfy contractual obligations) products supported without contracts - ISN, LCS...
    - Determine applicability of product maintenance request and find alternatives
    - Alternative Products

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# Where did I come from?

Objective: Increase Data Products OROS to  
20% Cost/Expense Reductions Options

## Marketing & Sales

- Centralize to support small markets

## Organization/Management Structure

- Consolidate, Reduce Overhead in ELO

- Business Management
- Product Management; ATM/DATA/DACHN/Services
- R&D & OSTC
- Market Management

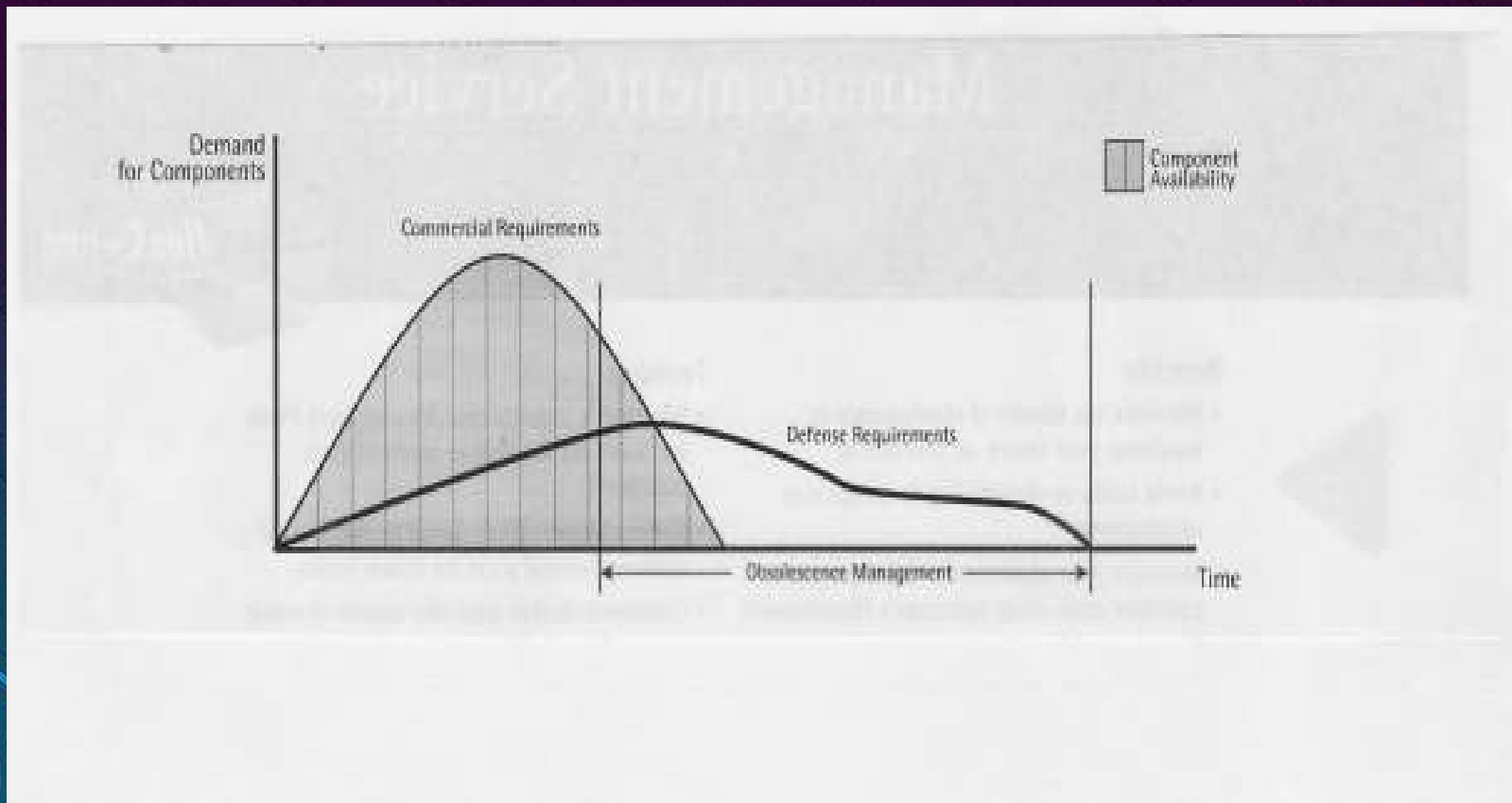
## Exit Day Products/Markets

- IBM, ICEN, LICEN, HRS1000, Sales/Operat/Support, etc.

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# Military Life Cycle



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# Military Life Cycle

- Government Life Cycles are Longer
- Moore's Law does not Help-Cycles measured in decades and not months
- Not a real competitive marketplace
- Standardizations/commoditizations does not exist
- EOL, Obsolescence, Last Time Buys are the NORM

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# Life Cycle Management

- Product life extensions are a key core competence
- Bridge the gap from old to new technologies by enhancing legacy products—not just reverse engineering—and extend product life cycles

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# Life Cycle Management

- Extend the life of legacy systems—true life cycle management
  - Example of the HONDA with 200,000 miles
    - Obsolescence, Last Time Buy, Cost reductions, supplier diversity—Predict the future
    - Trade off between redesign and component substitutions
    - Business case driven—NRE and forecasts drive the process
    - Migration to Linux Operating system—SOFTWARE IS Key Cost in Life Cycle
- Introduce new features/capabilities of future systems into today's products through redesign of platforms
- Stay away from Last Time Buys-redesign the part out
- Plan for migration to future systems-Evolution not revolution

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# Tactics

- IDIOT's Guide To Extending the Life Cycle
  - Cost reduction/ Margin Improvement
    - Traditional cost reduction (material , labor , load)
    - Reduction in per port cost thru multi-port boards
    - Multi port vs Multi -Box
    - Reduction in spares by developing common boards/platforms
  - Reverse Engineering
    - Example: Datatek CNR-PTT & Battelle CAP
  - Intellectual Property
    - Army owns the IP

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# Tactics

- Create platforms (hardware and software) that can serve multiple functions
  - Modifications and upgrades accomplished via software downloads
  - Platforms are certified by appropriate regulatory agencies (U.L. CSA, NEBS)
  - Reduce the amount of spares
- Examine impact on space, power, cabling, installation and engineering services, network management, training, documentation and user interface,
- FFF/SWAP C

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# Tactics

- Identify new technology.
  - Faster CPUs
  - Software
  - Multiprocessor devices
  - Memory density
  - FPGA enhancements
  - Integrated functions with FPGA or new COTs ICs
  - Eliminate disk drives, fans ,Old Power supplies
- Cost reduce
  - Select reduced cost components
  - Take advantage of market cycle for components
- Update standards compliance
  - MIL-STD, ISO, CCITT
- Add new capabilities and recent standards
  - Ethernet
  - Fiber vs Copper
- Reduce size and modernize enclosures.
  - Common Equipment & Standardizations

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## What I don't know or understand? Differences between Gov't and Private Sector?

- Financial Metrics
  - Income statement/Balance sheet/Cash Flow, Inventory
- Product manager makes Choices between R&D vs Sales vs Marketing ; Cost Reduction vs Features vs Last Time Buy
- Product Team has Support as key and Equal player-
- Product not GA until Spares, Repair, Support, Training, Documentation resolved
- Maintenance Philosophy-\$\$ pays for support and ongoing maintenance
  - No maintenance contract- No Support
  - Time and Material Option
- Multi -year Product Pan

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## What I don't know or understand? Differences between Gov't and Private Sector?

- Design, Manufacturing Test and Support Philosophy
  - DFM, DFT, DFS
  - Platforms-Multiple Use
  - Obsolescence issues
    - Common Component database
    - Dual source
  - Processes/documentation
  - Inventory Metrics, Inventory Turns
  - New Product introduction ,Beta ,Fist Customer Ship
- READ THE BOOK



# What I don't know or understand? Differences between Gov't and Private Sector?

- Warfighter vs \$\$\$
- Government Accounting/Color or Buckets of Money
- PM vs. Logistician
- Hardware vs Software
- Organizational structure and decision Making throughout the Life Cycle
- Initiatives
  - Value Engineering
  - Reducing the Total Cost of Ownership
  - Tech refresh
- Reward Structure and Culture-Accountability and responsibility
- Lawyers/Contracting Officers/FARS/ITAR

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# PC AT ISA Card CNR-PTT



The CCI Unit replaces the PC AT ISA card  
– CNR-PTT Communication PCB  
The new CCI Unit supports all the  
functionality of the existing ISA card with  
many new enhancements

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# Example- Combat Network Radio- Protocol Test Tool (CNR-PTT)



- Built for Northrop Grumman
- Supports: MIL-STD-188-220, X.25, PPP, IEEE 802.3
- Additional Protocols can be added over the USB interface
- Supports Balanced or Unbalanced Interfaces
- High-speed USB Interface to Host Computer
- DTE/DCE Emulation / Monitor Mode



- Reverse engineered legacy device
- Monitors Communication over a DTE/DCE Interface and Captures Data Frames for Processing and Analysis

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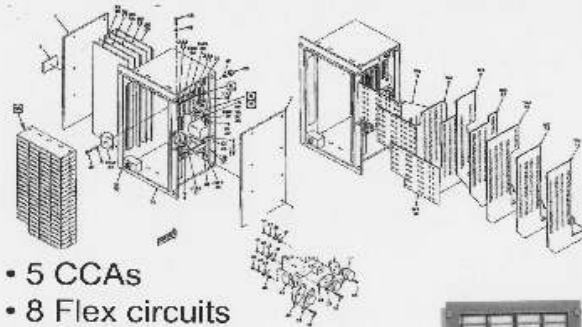


# Example Battelle

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## Caution Advisory Panel (CAP)

Battelle  
*The Business of Innovation*

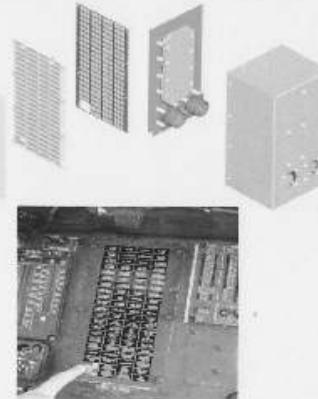


- 5 CCAs
- 8 Flex circuits
- 164 light bulbs

### Legacy CAP

\$11,392.60 to purchase  
\$2,176+ to overhaul  
AMD: 25 per month

- 2 CCAs
- LEDs



### Battelle CAP

\$4,886 to purchase  
\$0 to overhaul

Estimated 10 year  
savings \$11M

BUSINESS SENSITIVE

4

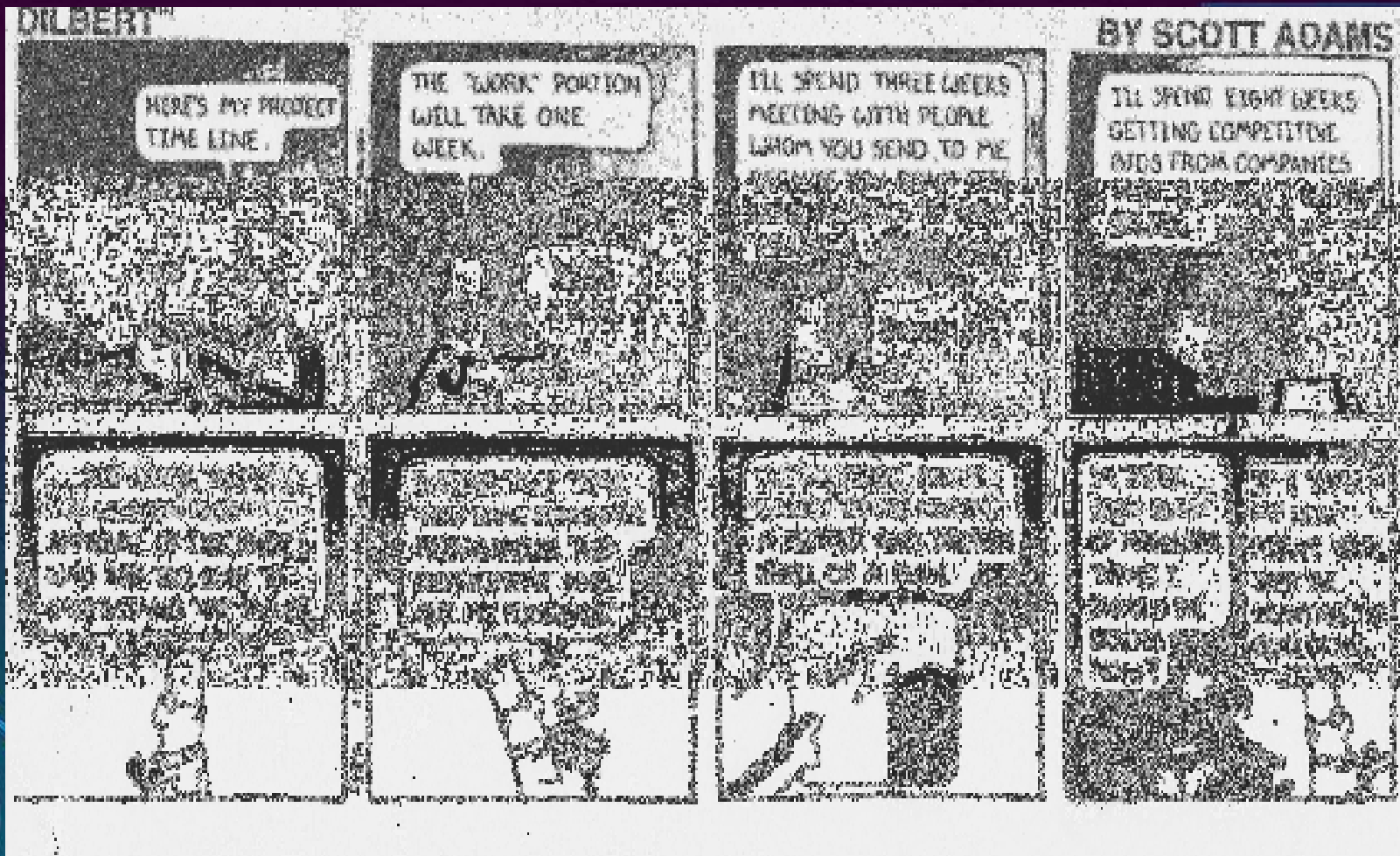
# Conclusion/Objective

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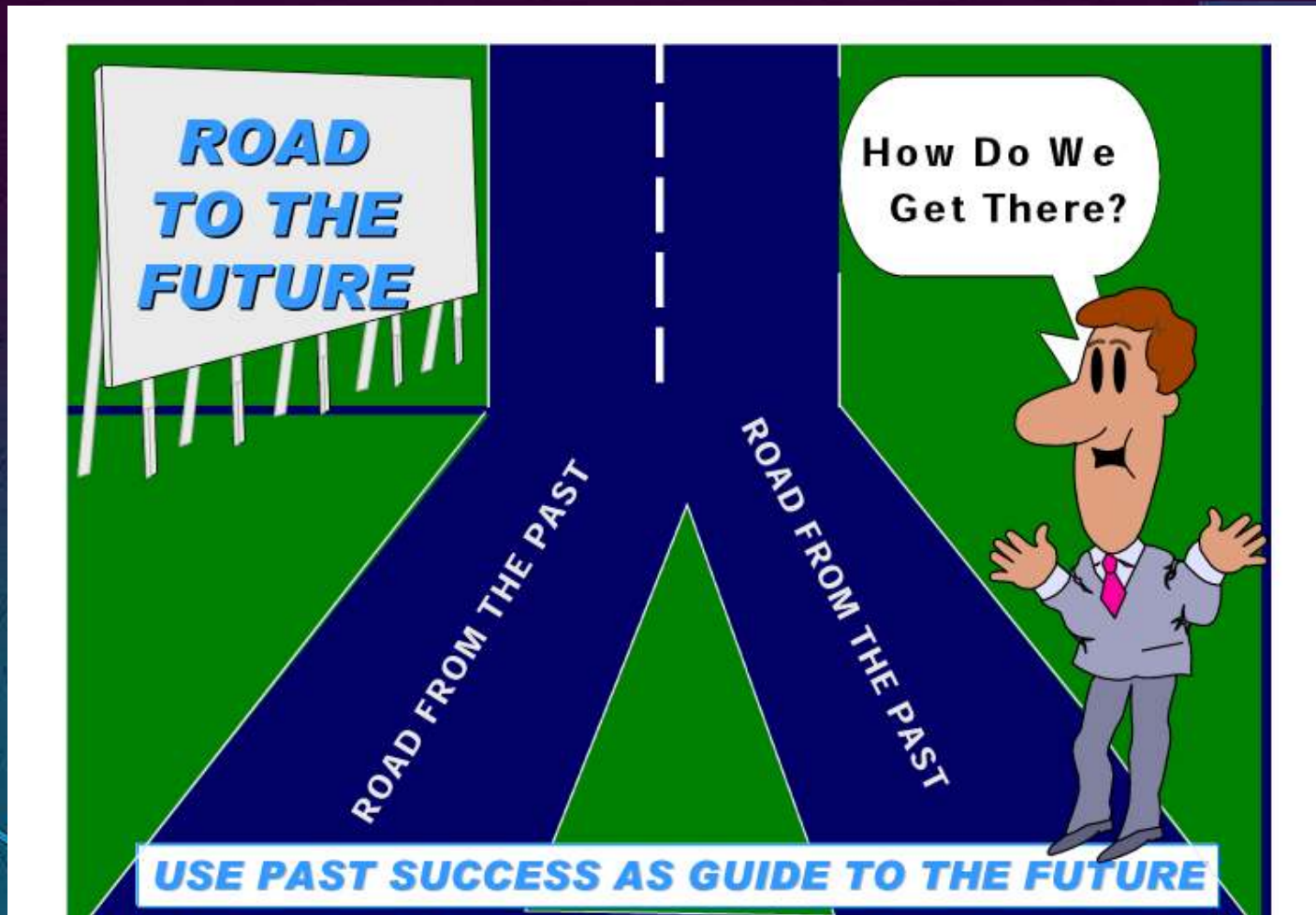


# Back to the Future



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# And finally,



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# BACKUP

- Additional slides

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# About Datatek

- Founded in February, 1998
- Located in Somerset, NJ
- Privately owned, profitable since inception
- 15 employees, 13 engineers (*all with technical degrees, 75% with advanced degrees*)
- Average experience: 20 years
- Founding member of ACIN

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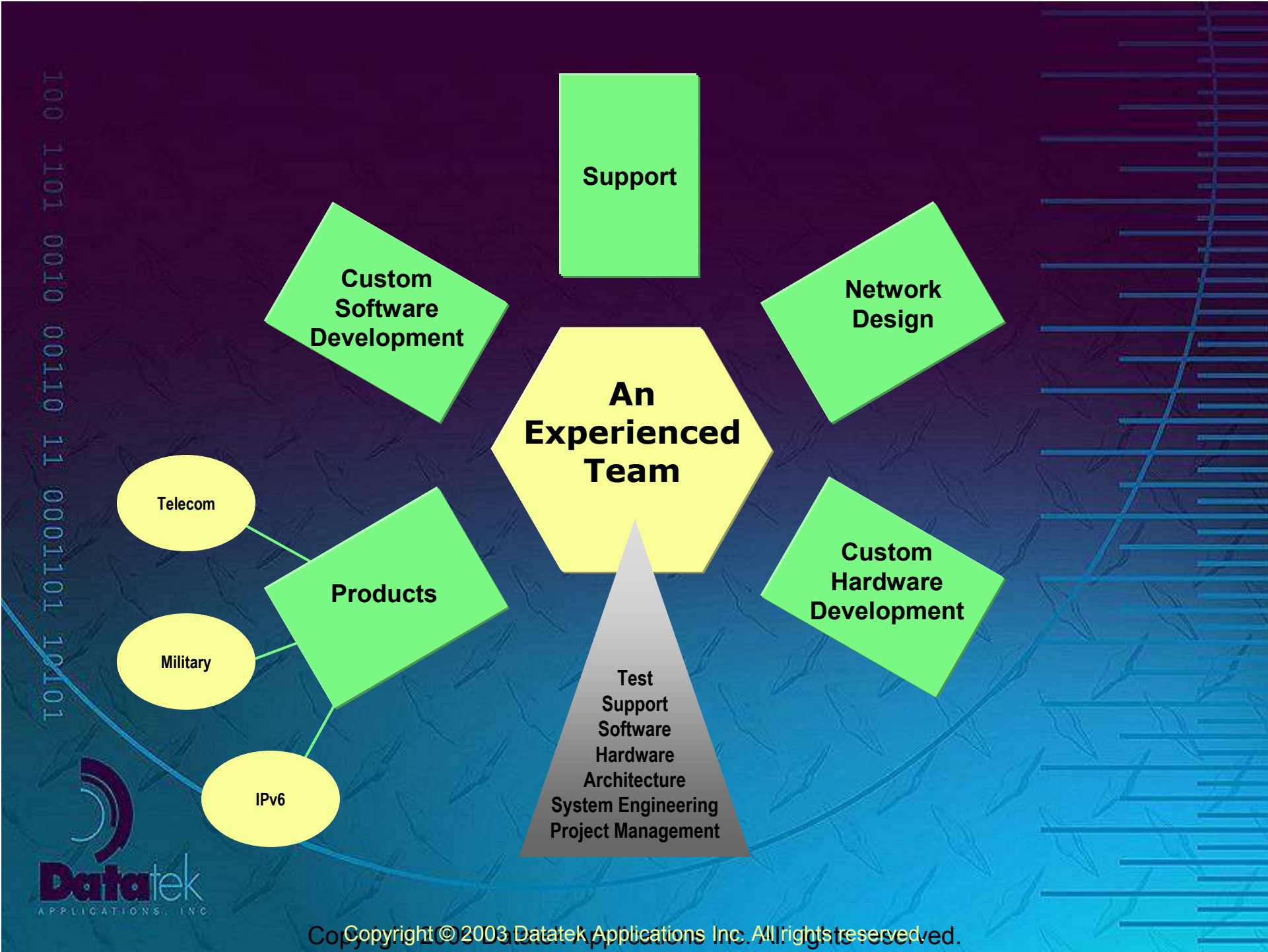


# About Datatek

- Facility
  - 10,000 sq ft Office space-cubicles
  - 3000 sq ft Lab Space-Raised flooring

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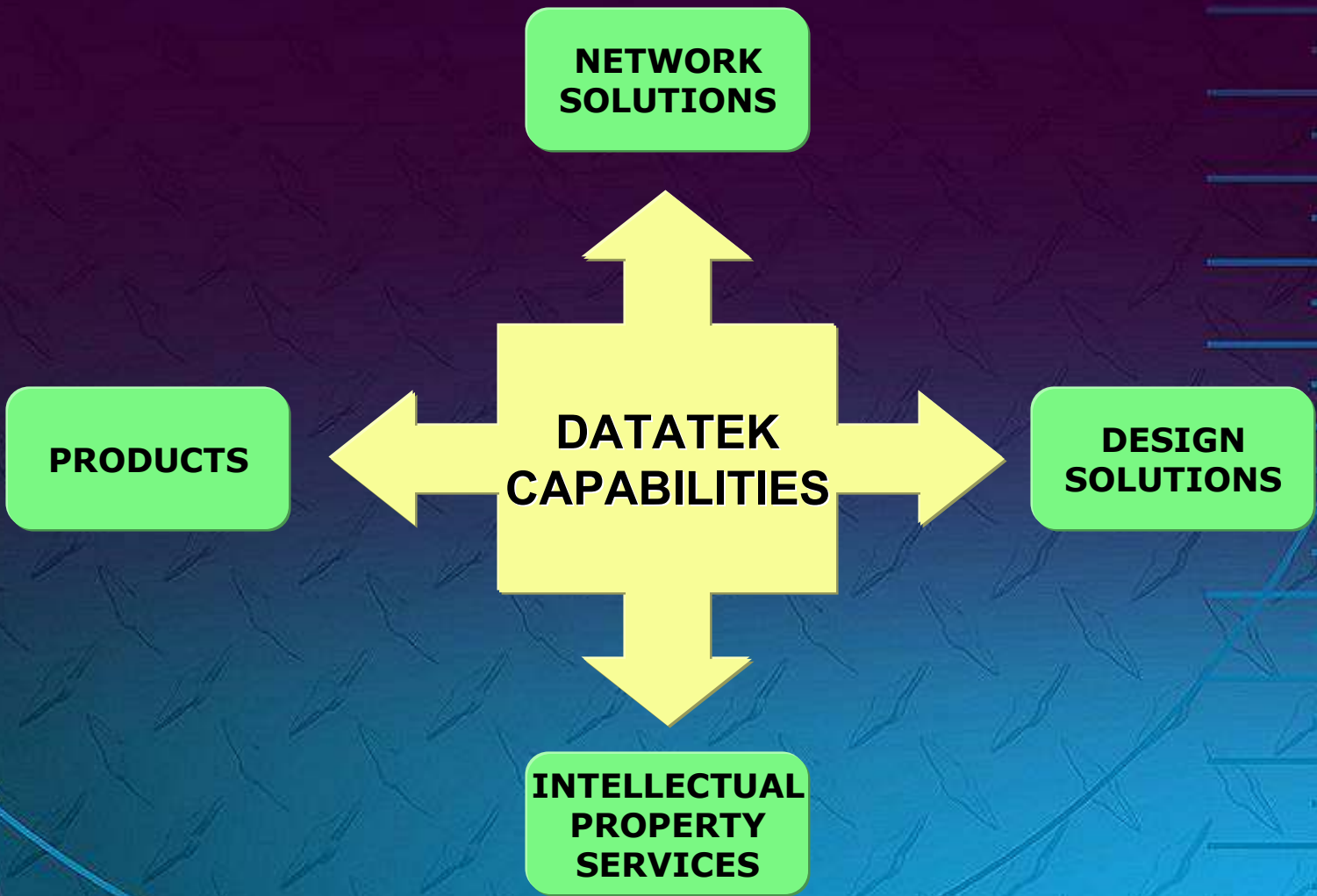




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# Products and Services

- Lifecycle support of legacy systems and network elements
- Custom hardware and software design services
  - Advanced programmable logic design
- IP migration products
- Network Management and Security Applications
- Network Support and Network Design
- Intellectual Property Investigation

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# Product Realization

- Datatek has the perfect solution to your legacy and mature system problems
- Experienced technical staff to provide solutions to obsolescence challenges through reverse engineering/re-design and product life extension
- Firm Price Quote or Time and Material

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