

D R A P E R

Draper Embedded Architectures

There is no security on this earth; there is only opportunity.

- Douglas MacArthur

Engineering Possibilities

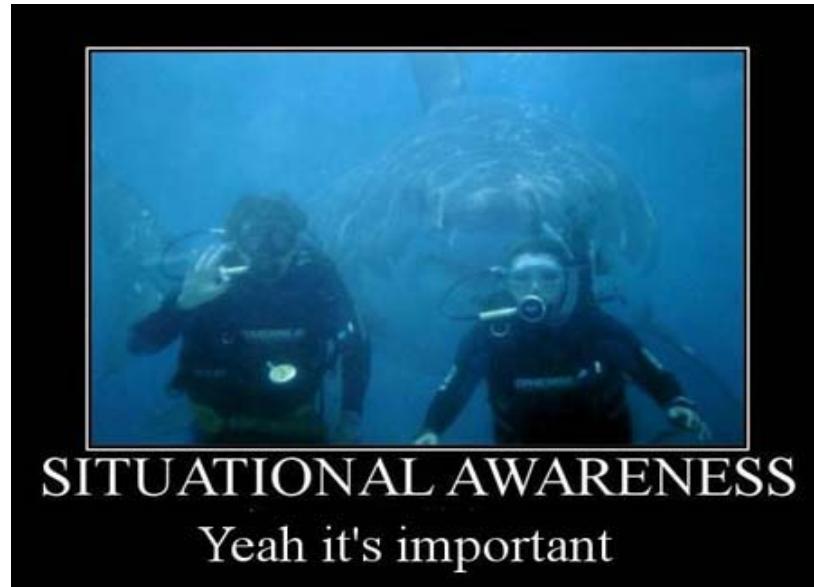
... Draper – where “hard problem” is a matter of perspective.



Independent and not-for-profit with ~1,600 employees and >\$550M in revenues

Why is Draper using OpenC2?

1. Because Cyber relevant time is an imperative for future systems.
2. Open standards enable COTS strategies (and more).
3. In order to “bake” security in – we need to “bake” in situational awareness.



Resilience in Operations & Missions



But What about Development?

Current Order of Magnitude – Years....

- Approved product lists
- Cross Domain adjudication
- Risk management Framework

All to define, mitigate and share residual risk

...how can the Pentagon spend \$30 billion a year on IT and yet, barely make a dent in modernizing decades-old information networks and systems? And what will it take to turn things around?

Congresswoman Elise Stefanik, who chairs the HASC subcommittee on emerging threats and capabilities

Identity - *Where IA meets Cyber*

What is the difference between IA and Cyber?

Manage (and more specifically Automate) Identities and their activities -

- People, Devices, Keys/Variables

- Manage & Quantify System Integrity

- Limit exposure/effects – both to lessen impact and provide defense in depth

- Enable automated accounting – we can't read and act upon the audits done today

- Support future functionality – some level of new capability

- Drive and accommodate (open) commercial specifications

Automation for faster decision making

Requires structured Syntax/Vocabulary –

Fundamental Requirement – met by OpenC2

Allows for me to focus on:

System Integrity

Legacy systems interoperability

Aggregation and management of information for situational awareness

Questions

Mike Ridge – Embedded Systems Security Architect mridge@draper.com

Jim Zagami – Program Manager jzagami@draper.com

DOCTOR FUN

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Backup Slides

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Security and Architecture Capabilities

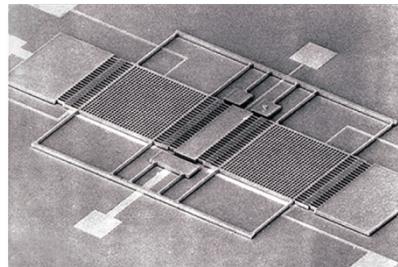
- Positioning, Navigation & Timing (PNT)
- Autonomous Systems
- Precision Instrumentation
- Microsystems
- Fault-Tolerant Systems
- Secure & Assured Systems
- Human Systems Technology
- Image & Data Analytics
- Biomedical Solutions
- Materials Engineering & Microfabrication



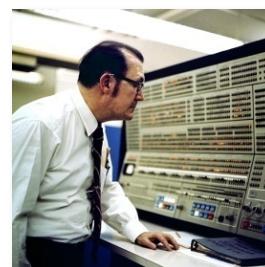
Engineering the World Around You



Apollo Guidance Computer



Microelectromechanical System (MEMS)



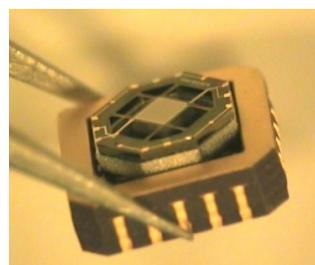
First Algebraic Compiler



Precision Guided Munitions



Tissue Engineering



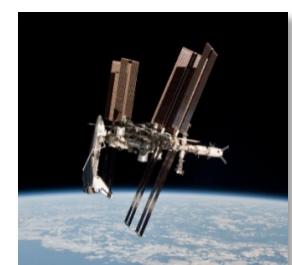
Precision Timing



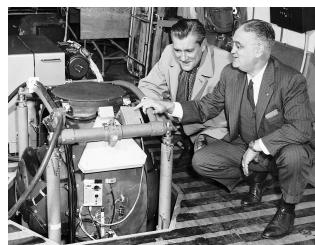
Ballistic Missile Guidance



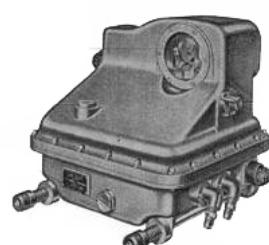
Digital Fly-by-Wire



Shuttle Docking



SPIRE Jr.



Mark 14 Gunsight



Precision Airdrop



Unmanned Underwater Vehicle