



AFCEA-GMU Critical Issues in C4I Symposium
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Critical Technology Industry Perspective

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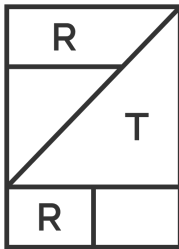
CTO Roundtable



Role of the CTO in 2020

Leverage technology to drive
Business Outcomes





Technology-centric businesses offer:

- Convenience, Speed, Pervasive access
- Great experiences – individual, social
- Choice



Priorities ...



1 – Learn the business

- Understand how the organization creates value
- Collaborate closely with business executives
 - General Managers
 - CXOs (Strategy, Marketing, Sales/Revenue)
- Intimately know the Customer

Customer-centricity



2 – Maintain a bi-focal Vision

- Address today's needs
- Understand where the Puck is going
- Identify and prepare for tomorrow's needs
- Plan to quickly respond to changing priorities

Continuous Delivery



3 - Develop Deep Digital Knowledge

Collect, clean, extend, segment, correlate all types of Data

- Customer
- Products and Services
- Equipment, Locations, etc.
- Internal (Financials, Employees, etc.)
- Value is create at unique intersections of Datasets

Data-centricity



4 – Drive Innovation

- Establish a **culture** of Innovation, Risk-taking
- Collaborate broadly to collate innovative ideas
- Involve Technology Team and Partners to identify business opportunities enabled by New Technologies and Data Assets
- Prioritize ideas and invest in a few
- Develop MVPs, Test, Iterate

Scale or Fail Fast!



5 - Create and nurture a network

Learning and Ideas can come from anywhere

- Peers
- Vendors
- Startups / VCs, etc.

I get by with a little help from my friends



POV on New Technologies



ML / AI



- Rapid innovation in tools and algorithms
- Can create a significant impact very quickly
- In my view, AI / ML move analytics from a dataset to the record level
- Key challenges: Talent and Understanding



5G



- 1G: walk and talk
- 2G: text messages
- 3G: internet
- 4G: streaming
- 5G: promises a whole suite of dramatic improvements:
 - Entirely new wireless infrastructure – 100 times faster than 4G
 - Nearly eliminate any processing delays
 - Power IoT - designed to connect billions of machines, appliances, and sensors at low cost without draining their batteries



Voice



- Quality has significantly improved over the past few years!
- Machines are beginning to hold conversations



IoT



- Sensors
- Connectivity
- Smarts on the Edge



Blockchain



- A huge business model issue: cost of attributing and compensating for value can be more than the value created



VR



- Not a lot of business applications of VR
- Gaming? Training?



Execution! Execution!



Meet
commitments,
Always!

Yes, but ...

Requirements will change

Test and Learn at scale

Focus on cost

My architecture principles

Value: Business over technology.

Agile: Simple over complex.

Secure: Embed Security and Privacy.

Flexible: Decoupled (API-driven).

Efficient: Seamlessly integrated.

On-demand: Serverless, Containers.

Intelligent: Data-centric.

Top-of-mind Processes

SAFe

CI / CD

SecDevOps



Focus on Business Outcomes

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