Frederic Veron

Frederic is currently a Principal at EY. Prior to EY, he was the Group CIO Global Head of Safety and Soundness at Deutsche Bank, the Enterprise CIO at Fannie Mae and over the previous years consulted to many global financial institutions.

A tenured IT executive with extensive experience in the financial services and global technology consulting industries, Frederic is well versed in the challenges of IT service delivery and governance models. He has led countless transformation and risk management programs to help companies complete the shift to digital business models while managing security and risk exposure.

The opinions expressed in this presentation are those of Frederic Veron and do not necessarily represent those of EY, LLP, its parent, subsidiaries or affiliated companies nor his previous employers.
How can EY help?

Technology Resiliency Offerings

The Technology Resilience suite of offerings include mapping critical key business services to supporting assets, continuous testing and assessments, responding to and recovering from disruption scenarios, and resuming these services for a sustained period of time limiting significant business disruption.

01 Technology Resiliency transformation
- Technology Resiliency target operating model, Framework and Policy development
- Contingency Service & Processing Planning & Integration
- Path To Production and SRE Services Implementation
- IT Production and operations improvement services
- Design for Resiliency Services and Planning (Microservices Architecture, Cloud, O365, SaaS, etc.)
- Software Intelligence Analysis
- Resiliency Management Solution Implementation

02 Technology Resiliency Assessments
- Technology Resiliency (Program) Maturity Assessment
- Resiliency Design and Architecture Reviews
- Recoverability Capability Assessment
- Technology criticality assessments
- Technology Resiliency Controls Assessment

03 Asset Mapping Services
- Technology Asset Mapping Assistance / Improvement Planning
- IT Asset Mapping Tools and Technology Transformation
- Automated technology identification and inventory application
- Automated process identification, enumeration and inventory

04 Data Resiliency and Recovery
- Data Resiliency strategy, architecture review and assessments
- Air-gapped / Isolated environment (Sheltered Harbor certification) solutions design and implementation assistance
- Data Extract, Encryption, Vaulting and Recovery Solutions
- Disaster Recovery Strategy, Framework and Assessments
- Rapid cyber resilience assessment and proactive remediation to uncover and fix single points of failure and vulnerability
- Design, enhance, and implement rapid cyber response capabilities

05 Technology Resiliency Testing
- Resiliency Testing Strategy and Framework
- Resiliency Testing Assistance (including independent validation)
- Resiliency Testing Management Services
- EY approaches simulation exercises based on the type of simulation (either table top or functional)

06 Operations Resiliency and Crisis Management
- BC/CM program Assessments & Development
- Resiliency Supervision & Monitoring Services
- Availability Management and Operations Resiliency reviews
- Incident Root Cause Analysis and Post Mortems
- Service Management Transformation
- Crisis Management Framework

EY helps its clients protect the enterprise across the entire continuum of events and disruptions
Problem

What is the root cause and most sensitive area of most incidents?

The Network?

The Hardware?

A Human Error?

Change?

But at the end... The SOFTWARE!
Good Business Digitalization Requires Safe and Sound Software

- Adaptable
- Resilient
- Secure
- Safe

Deliver a better customer experience

"Software solution resiliency refers to the ability of a solution to absorb the impact of a problem in one or more parts of a system, while continuing to provide an acceptable service level to the business." IBM

Software solution resiliency guidelines can help prevent bad behavior, Samir Nasser, IBM, July 30, 2014
One Million Lines of Code...

- 223 Person-years to write
- 67 people working 40 months
- Cost
  - $20m to $40m
  - $15 for one line of code
  - $40 for one line of GOOD code (robust design and testing)

- The Space Shuttle took .4 million lines of code (primary flight software)
- Windows 3.1 (1992) took 2.5 million lines of code
- HealthCare.gov took 500 million lines of code to write, and 5 million lines of code to repair
- Google took 2 BILLION lines of code
Software source code doubles every **42 months**.

Gates’ Law: the speed of commercial software slows by **50% every 18 months**.

Moore’s Law: compute speed doubles and cost reduces by **50% every 24 months**.

Average tenure for CIOs (2016) is **51.6 months**.

Average tenure for CIOs (2019) is **58.8 months**.

Average Age for CIOs Nudges Higher, Angus Loten, The Wall Street Journal, January 23, 2020
https://www.wsj.com/articles/average-age-of-cios-nudges-higher-11579791604
How Today’s Developers are Learning to Code
https://www.stackoverflowbusiness.com/blog/how-todays-developers-are-learning-to-code

For additional information go to:
https://insights.stackoverflow.com/survey/2019
The Software Developer Cycle: Career Demographics and the market clock or, is SQL the new COBOL?, David Parsons, ResearchGate, September 2015
https://www.researchgate.net/figure/Participants-experience-levels_fig1_283347582
Quality of Outsourced Software is No Laughing Matter

YOU SAVED ONE MILLION DOLLARS BY HAVING PROGRAMMERS IN ELBONIA WRITE SOFTWARE FOR US.

BUT WE WASTED FOUR MILLION DOLLARS TRYING TO DEBUG THE SOFTWARE.

AND THE ENTIRE STAFF OF OUR QUALITY ASSURANCE GROUP QUIT TO BECOME MIMESS.

LET'S BLAME THE MIMESS; THEY WON'T TALK.
10 Things CIOs Must Absolutely Know About their Software

- A Standards-based view of Software Health
- Prevalence and criticality of application security vulnerabilities
- Cloud readiness of applications
- System-level analytics
- Application portfolio rationalization
- Technical Debt
- Open source and IP license risk
- Data privacy and compliance risk exposure
- Architecture compliance
- Source code inventory
Moving to the Left...
Integrate Ops into Planning, Design, Construction...

- Create library of NFRs
- Participate in IT Governance and budget meeting
- Recommend safety and soundness investments
- Participate in Steercos
- Require the complete set of releases in release schedule
- Conduct Look Ahead / Collision meetings
- Conduct operational readiness reviews – toll gates
- Infrastructure requirements early in the process
- Production support user stories in the body of work
- Consider degraded performances configuration
- Automate anything you can
- Integrate all tools as part of the CI/CD
- Single repository of config, runbooks, doc, etc.
- Understand Critical Business Events
- Implement IT Risk scoring

Moving to the Right...
Integrate Planning, Design, Construction...into Ops

- Create ICU (Intensive Care Unit) for application experiencing difficulties
- Review production health regularly with dev teams
- Product owner or Dev lead on all major incidents and present post mortem to key stakeholders
- Participate in Look Ahead meetings and some in SuperCAB
- Set "$1 test" in production, blue/green environment
- Define priority matrix and SRE error/risk budget, service level objectives, notion of the streak (how long since my last incident) -- slow down releases when getting close to the budget. Stop when at budget
- Institute a "warrant period"
- Educate and tool production teams to be able to deploy low risk code as long as controls are in place (break glass, access broker, etc.) and trail is auditable
Successful Transformation
The better the software, the better the business results
Metrics
Measure Software Behavior with an IT Risk Score
Up Your Digital Game from Vision to Execution

Become Hyper-Aware

Operationally Ready

Fail & Learn Fast

But Most Importantly Know Your Software
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   https://www.cio.com/article/3388128/10-things-cios-must-absolutely-know-about-their-software.html

4. Codebases – Million Lines of Code, Information is Beautiful
   https://informationisbeautiful.net/visualizations/million-lines-of-code/

5. The Software Developer Cycle: Career Demographics and the market clock or, is SQL the new COBOL?, David Parsons, ResearchGate, September 2015
   https://www.researchgate.net/figure/Participants-experience-levels_fig1_283347582

6. How Today’s Developers are Learning to Code
   https://www.stackoverflowbusiness.com/blog/how-todays-developers-are-learning-to-code
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