Resiliency Engineering Framework

Project Update

David White – SEI

Charles Wallen - FSTC

FSTC Annual Meeting

11 October 2006

The Resiliency Model Project

Collaboration between FSTC and Carnegie Mellon's Software Engineering Institute

Multi-phased effort to help financial organizations to measure and improve their resiliency capabilities

Focused on the resiliency engineering process

Encompasses security, business continuity, and IT operations practices with focus on operational risk management

Codified in the "Resiliency Engineering Framework"

Establishes a foundation for resiliency process improvement

Software Engineering Institute

Established in 1984

Federally Funded Research and Development Center (FFRDC)

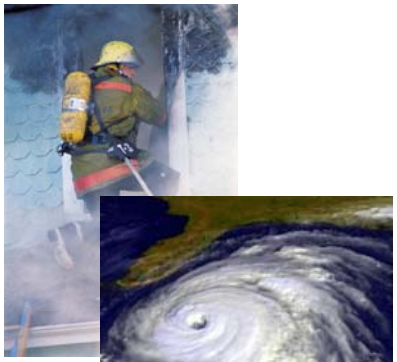
College-level unit of Carnegie Mellon University

Includes five technical programs aimed helping defense, government, industry, and academic organizations to continually improve software-intensive systems

Widely-known areas of expertise

- CERT Coordination Center (security)
- CMMI Capability Maturity Model Integration (process improvement)

An expanded risk environment



Disasters

Regulations

Cyber Security

Supply Chain

Infrastructure

Terrorism

Resiliency…more than a buzzword

Resiliency is the ability of an object to return to its original shape

Operational resiliency refers to an organization's ability to function and adapt through the lifecycle of disruptions

A resiliency model is a roadmap for managing the consistent delivery of products and services

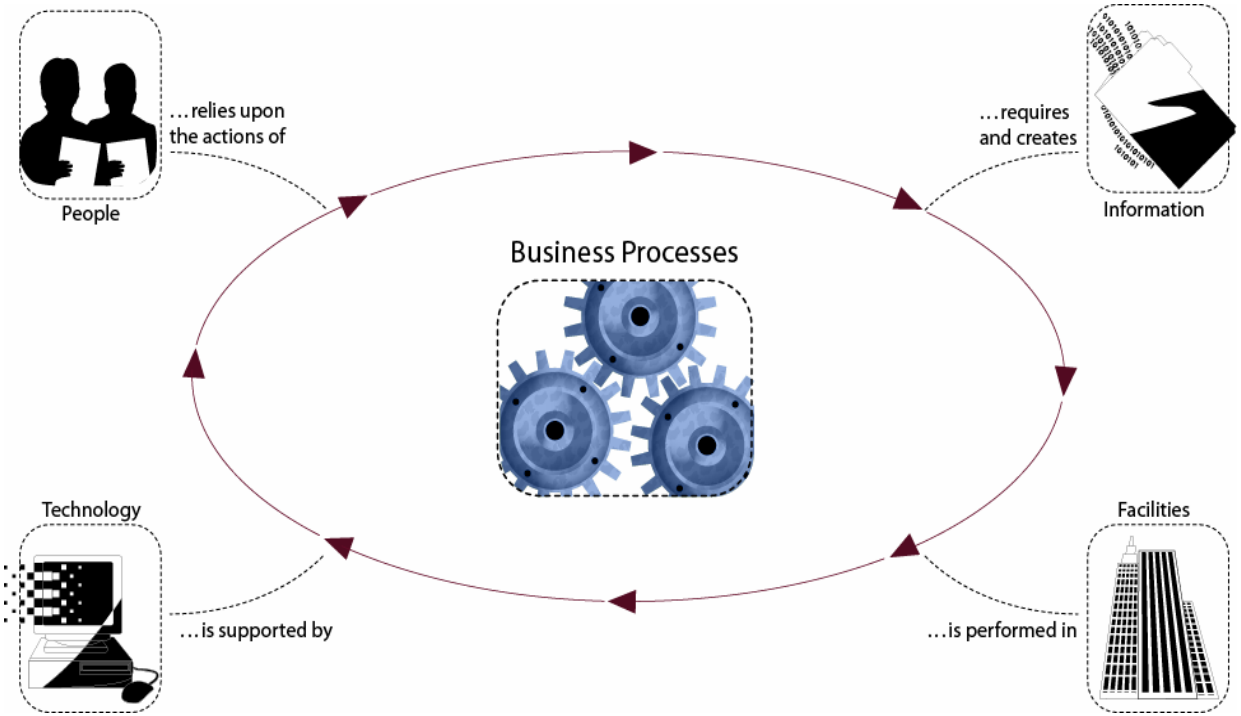
Managing resiliency is a challenge

Requires

- Ongoing measurement and monitoring
- Balancing cost and risk tradeoffs
- Taking an enterprise focus

Financial Services organizations recognize a need to be able to manage resiliency in a systematic, consistent, measurable, and improvable way

Resiliency engineering in practice



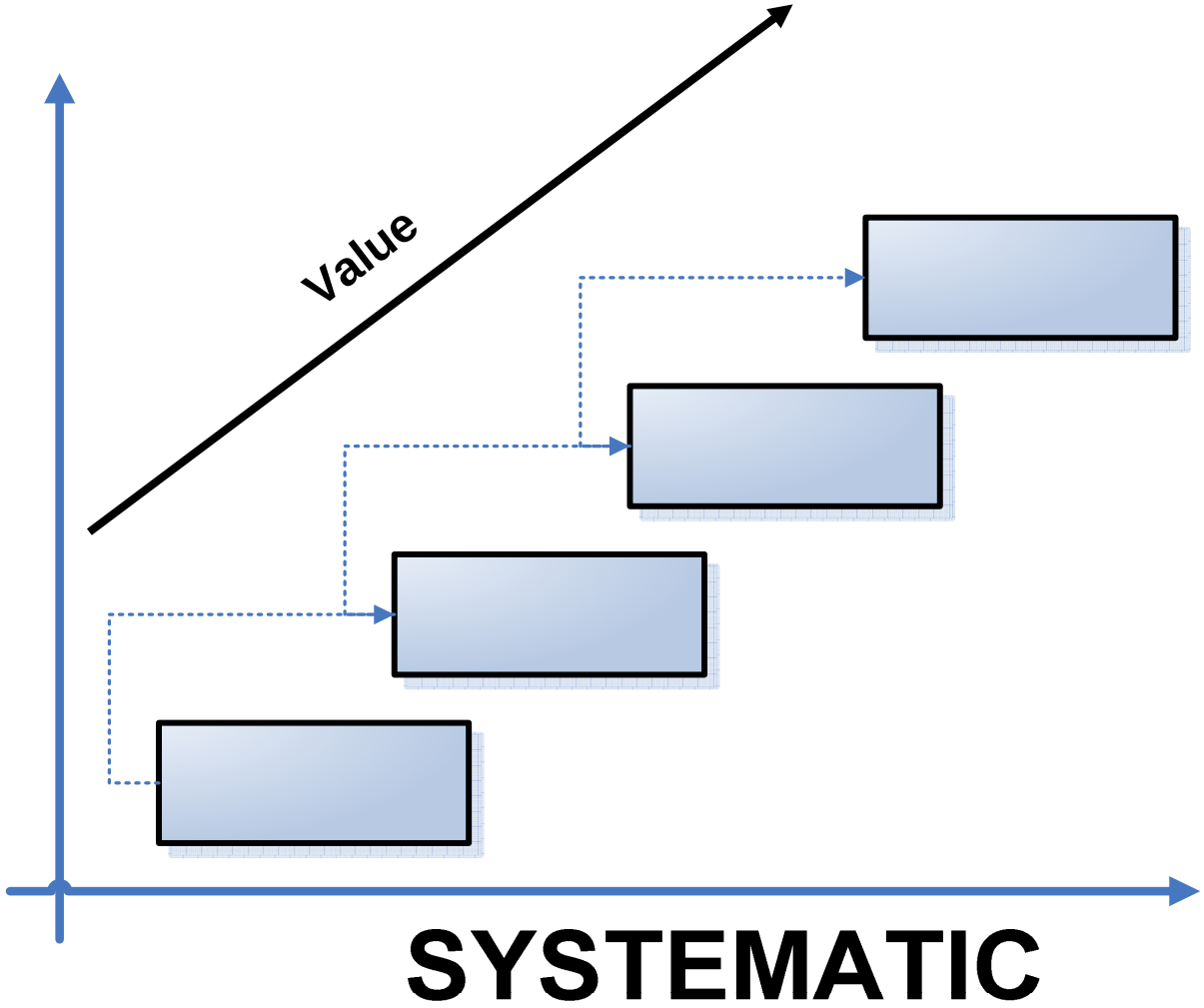
The process by which an organization establishes, develops, implements, and manages the operational resiliency of services, related business processes, and associated assets

Collaborating toward a common goal

A framework is needed to. . .

- Identify and prioritize risk exposures
- Define a process improvement roadmap
- Measure and facilitate strategic planning
- Address interdependencies
- Promote pro-active regulatory compliance

Goal: continuous improvement of resiliency processes



Why use a “framework” approach?

Provides an operational risk roadmap

Vendor-neutral, standardized, unbiased assessment vehicle

Can be leveraged for process improvement at any organization, public or private

Avoids the pitfalls of prescriptive solutions by promoting resiliency engineering and the use of organization-appropriate practices

The Resiliency Engineering Framework

An integrated process improvement framework for security and business continuity

Defines basic process areas and provides guidelines for improving security and BC processes

Addresses operational risk management through process management

Vital linkages between security, BC, and I/T ops are captured in the process definition

Establishes a capability benchmark

Why use a “process” approach?

Elevates the management and coordination of operational-resiliency focused activities to the enterprise:

- Shared view of risk, goals, and resources
- Elimination of redundancy and stovepipes
- Elimination of “practice quagmire” by selecting meaningful practices that fit the process definition
- Ability to set goals and measure process effectiveness
- Ability to inculcate and nurture a process improvement culture

How will the framework be used?

Establish current level of capability

Set forward-looking resiliency goals and targets

Develop plans to close identified gaps

Build resiliency into important assets and architectures

Reduce reactionary activities; shift to directing and controlling activities

Align common practices with processes to achieve process goals

Future activities

Release REF v1.0 in October 2006 for comments

Guidelines for improving the security and business continuity processes

Phase III expansion of model development and piloting

Exploration of integration with other existing models

Development of appraisal methodology to measure capability for managing resiliency

Phase I and Phase II Project Members

Ameriprise

Bank of America

Carnegie Mellon

Capital Group

Citicorp

Discover

DRII

DRJ

IBM

JPMorgan Chase

Key Bank

KPMG

MasterCard

Marshall and Ilsley

NY Federal Reserve Bank

SunGard

Trizec Properties

US Bank

Wachovia

For more information

Rich Caralli

Software Engineering Institute

www.sei.cmu.edu

www.cert.org

rcaralli@cert.org

Charles Wallen

Financial Services Technology Consortium

www.fstc.org

charles.wallen@fstc.org

Introducing the Resiliency Engineering Framework

Framework architecture

Represents processes that span four basic areas:

- Enterprise management
- Engineering
- Operations management
- Process management

Considers the resiliency of people, information, technology, and facilities in the context of services and business objectives

Enterprise management processes

Enterprise capabilities that are essential to supporting the resiliency engineering process

RISK – Risk Management

EF – Enterprise Focus

COMP – Compliance Management

FRM – Financial Resource Management

HRM – Human Resource Management

Operations management processes

Capabilities focused on sustaining an adequate level of operational resiliency

SAM – Supplier Agreement Management

SRM – Supplier Relationship Management

AMC – Access Management and Control

IMC – Incident Management and Control

VM – Vulnerability Management

EC – Environmental Control

KIM – Knowledge and Information Management

SOM – Security Operations Management

ITOPS – IT Operations Management

TM – Technology Management

Engineering processes

Capabilities focused on establishing and implementing resiliency for organizational assets, business processes, and services

RRD – Requirements Definition

RRM – Requirements Management

ADM – Asset Definition and Management

SM – Survivability Management

REST – Restoration of Operations Planning

CM – Controls Management

RADA – Resilient Architecture Development and Acquisition

Process management processes

Enterprise capabilities related to defining, planning, deploying, implementing, monitoring, controlling, appraising, measuring, and improving processes

OTA – Organizational Training and Awareness

PM – Process Management

MA – Measurement and Analysis

MON - Monitoring