

Cybersecurity Risk Management Best Practices (WG 4)

Cybersecurity Framework for the Communications Sector

Presentation to CSRIC IV

June 18, 2014

Co-Chairs:

Robert Mayer, USTelecom

Brian Allen, Time Warner Cable



Agenda

- WG4 Team and Organization
- Foundational Objectives and Question
- Approach
- Status
- Next Steps

WG4 Membership Team

103 members representing the communications sector, and representatives from the energy, financial and IT sectors, standards bodies, vendors, as well as federal and state departments and agencies.

Robert Mayer (Co-Chair)

Brian Allen (Co-Chair)

Samara Moore (Sr Policy Advisor)

Donna Dodson (Sr Technical Advisor)

Emily Talaga (Sr Economic Advisor)

Vern Mosley (FCC Liaison)

Adrienne Abbott

Anthony Acosta

Michael Alagna

Carl Anderson

Nadya Bartol

James Bean

Chris Boyer

Lois Burns

Ingrid Caples

Joel Capps

Dan Cashman

William Check

Nneka Chiazor

Andre Christian

Larry Clinton

Edward Czarnecki

Andrew D'Uva

Shelton Darensburg

Kate Dean

Martin Dolly

Tanner Doucet

Seton Droppers

Vinit Duggal

Victor Einfeldt

Russell Eubanks

Paul Ferguson

Rick Foster

Kevin Frank

Craig Froelich

Inette Furey

Chris Garner

Michael Geller

Jessica Gulick

Stacy Hartman

Mary Haynes

Alex Hoehn-Saric

Chris Homer

Charles Hudson, Jr

Wink Infinger

Chris Jeppson

Susan Joseph

Franck Journoud

Merike Kao

Aniruddha R. Karmarkar

Kevin Kastor

John Kelly

Scot Kight

Kate Kingberger

Danielle Kriz

Rick Krock

Greg Kulon

Jeremy Larson

Adam Levy

Greg Lucak

Ethan Lucarelli

John Madden

Daniel Madsen

Jennifer Manner

John Marinho

Ron Mathis

Beau Monday

Donna Bethea Murphy

Paul Nguyen

Jorge Nieves

Mike O'Hare

Michael O'Reirdan

Glen Pirrotta

Martin Pitson

Joel Rademacher

J. Bradford Ramsay

Alan Rinker

Chris Roosenraad

Robert Ross

Harold Salters

Brian Scarpelli

Karl Schimmeck

J. J. Shaw

Ray Singh

Tom Soroka

Craig Spiezle

Bill Taub

Matt Tooley

Fred Travis

Bill Trelease

Colin Troha

Danna Valsecchi

S. Rao Vasireddy

Phil Venables

Joe Viens

Christian Vogler

Jesse Ward

Errol Weiss

Kathy Whitbeck

Kelly Williams

Shawn Wilson

Pamela A. Witmer



WG 4 Leadership Team

WG4 Leadership Team

- Co-Chairs: Robert Mayer, USTelecom and Brian Allen, Time Warner Cable
- Cybersecurity Risk Management: Segment Framework Alignment – Brian Allen, Time Warner Cable, Nneka Chiazor, Verizon
 - Segment Leads
 - Broadcast, Kelly Williams, NAB
 - Cable, Matt Tooley, NCTA
 - Wireless, John Marinho, CTIA
 - Wireline, Chris Boyer, AT&T
 - Satellite, Donna Bethea Murphy, Iridium
 - Feeder Group Initiatives
 - Barriers to Implementation, Co-Leads, Harold Salters T-Mobile, Larry Clinton, Internet Security Alliance
 - Mids/Smalls – Co-Leads, Susan Joseph, Cable Labs, Jesse Ward, NTCA
 - Top Cyber Threats and Vectors - Russell Eubanks, Cox, Joe Viens, TWCable
 - Ecosystem – Shared Responsibilities, Co-Leads, Tom Soroka, USTelecom, Brian Scarpelli, TIA

Senior Advisors

- Donna Dodson, WG4 Senior Technical Advisor, NIST, Deputy Chief Cybersecurity Advisor & Division Chief for Computer Security Division
- Samara Moore, WG4 Senior Policy Advisor, Former White House Director of Critical Infrastructure
- Emily Talaga, WG4 Senior Economic Advisor, FCC



WG 4 Foundational Objectives

- **Conform the NIST framework to the communications sector.** Identify core mission(s), critical infrastructure and risks to the communications sector and organize the NIST core framework based on the aspects most relevant to ensuring the reliability and integrity of the core communications infrastructure
- **Maintain flexibility for individual companies.** As part of this exercise based on updated threat information, and consistent with the NIST framework, the communications sector conforming framework will allow for flexibility for individual companies to self-determine how to apply the framework to their business based upon their own individual risk profile, risk tolerance, and critical infrastructure ownership
- **Develop new streamlined practices that follow Framework organization and common risk management approaches.** Use existing CSRIC Best Practices and other resources to inform and organize the Framework with the goal to provide companies a “guide” of practices specific to communication segments that companies could elect to implement to mitigate cyber risk
- **Develop use cases/examples of how the framework is being used within the sector.** Develop an appendix with illustrative examples or use cases about how the framework is being used or incorporated into risk management processes of communications companies. Descriptions will be anonymized and provide examples for all sector members around how aspects of the framework could be voluntarily used in the communications sector
- **Provide guidance to incorporate framework into existing company risk management processes.** Determine high level processes that companies could perform, to the extent they use the framework, to incorporate it into their existing risk management program, or build a cyber risk management program where none exists today

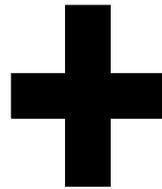
Foundational Question



How will WG4's product help companies in the five segments contribute to their capacity to assure appropriate internal and external stakeholders of the sufficiency of their own cyber risk management practices?

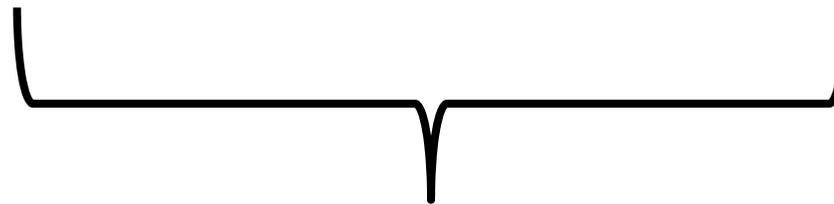
- Cybersecurity is a risk to the business just like many other risks that businesses encounter - whether that is risk from a physical disaster, market risk, political risk etc. and companies must evaluate those risks and to respond accordingly.
- Companies are all different and have different processes to assess their risks. Driving towards a uniform process is counter-productive and inconsistent with the CSF construct.
- We are talking about elevating the industry's ability to understand their risk exposure and risk management posture. Essentially WG4 is organized to produce "segment specific process roadmaps" that build upon the risk management approach reflected in the CSF and tailored to five common operating environments.
- We recognize the need of external stakeholders to seek some assurances regarding progress and this dialogue began in May with industry and government representatives from the White House (NSC), DHS, the FCC, and Treasury and conversations continue.

Working Group 4 Approach



Functions	Categories	Subcategories	Informative References
IDENTIFY			
PROTECT			
DETECT			
RESPOND			
RECOVER			

Figure 1: Framework Core Structure



**Communications Sector and Segment
Risk Management Framework**

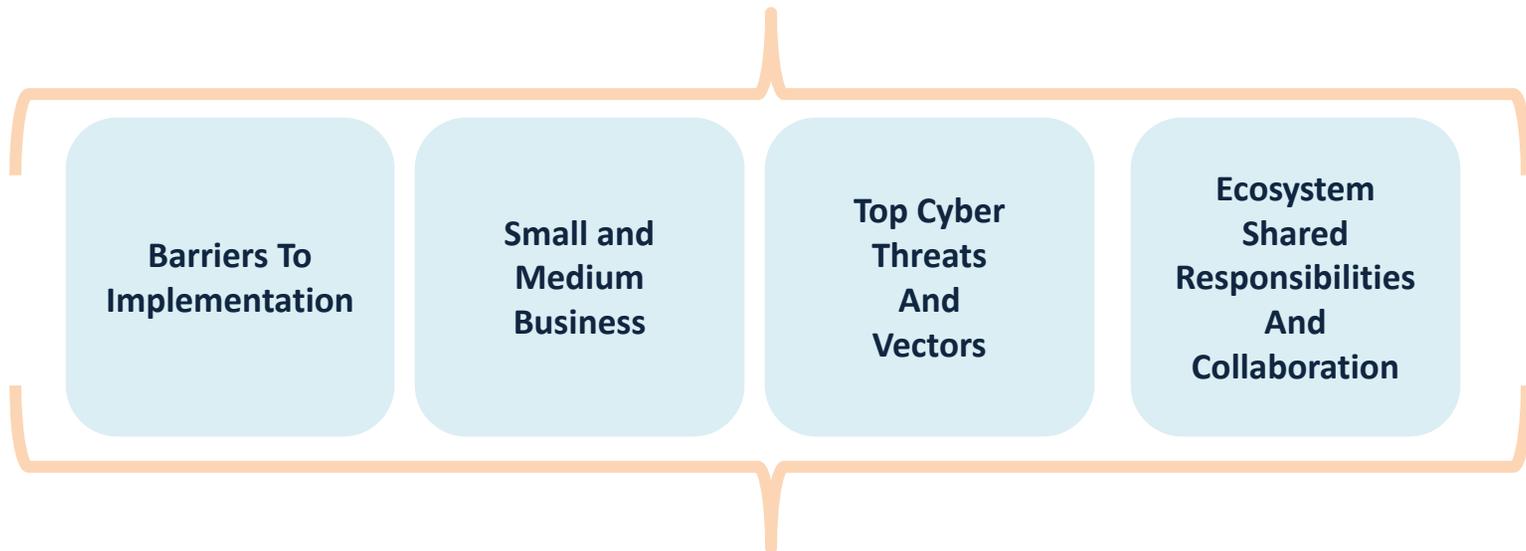


WG4 Approach

Each industry segment analyzes cyber risk management practices based on alignment with the Cybersecurity Framework design objectives



FOUR FEEDER GROUP INITIATIVES



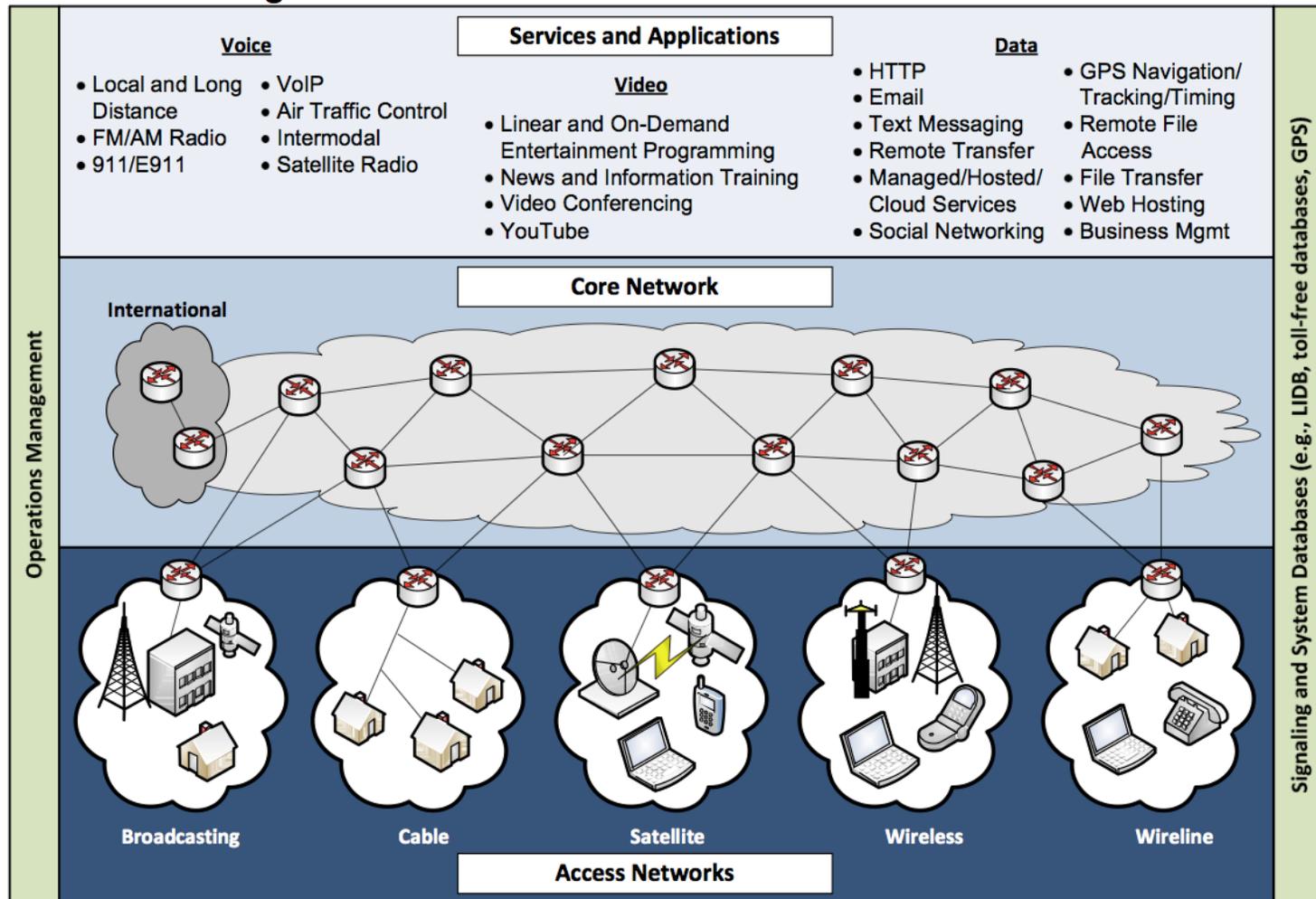
Project Integration & Analyses

NIST Version 1.0 Feedback

Final Report and Recommendations

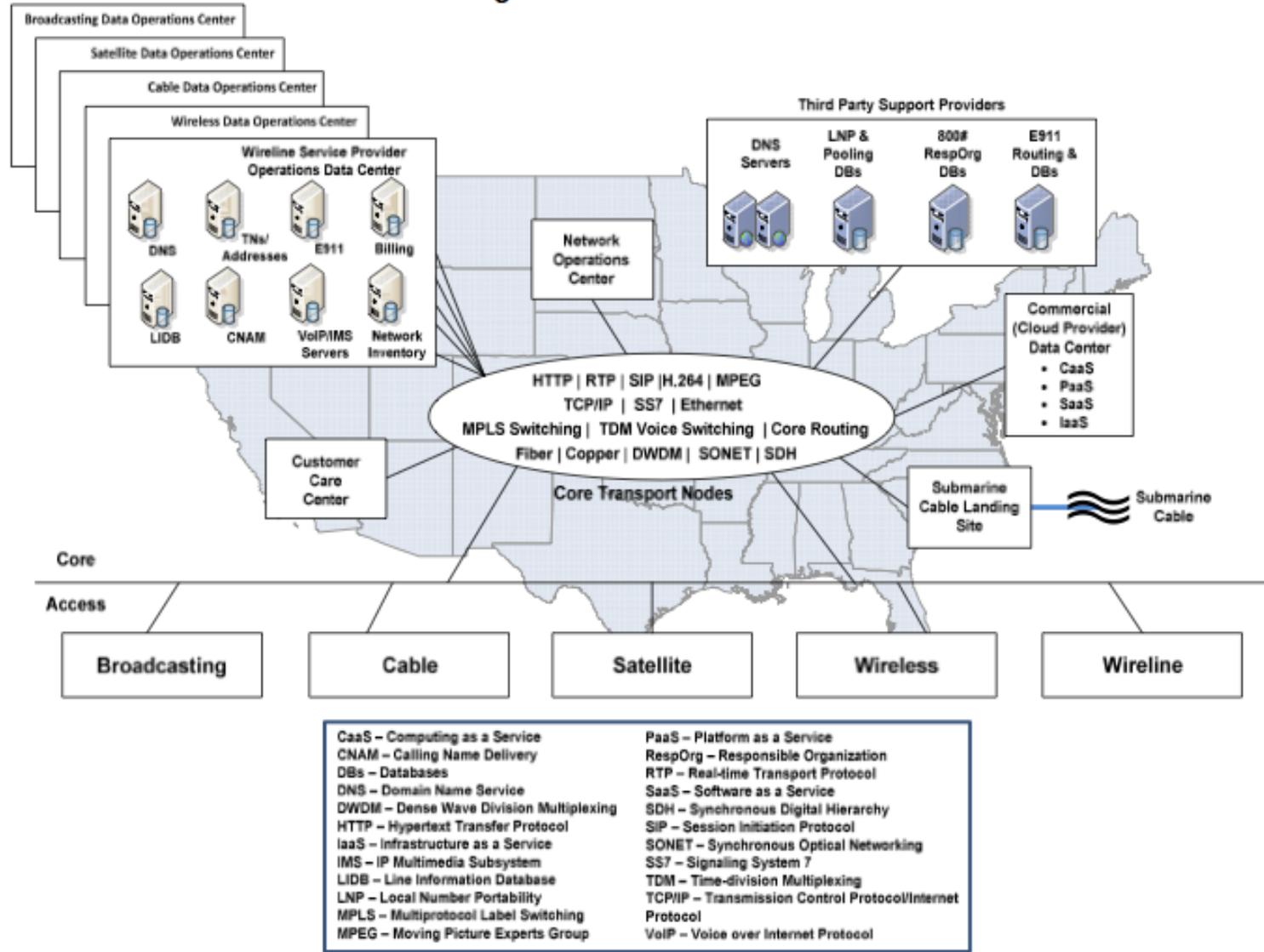
Network Core – National Sector Risk Assessment (NSRA) for Comms Sector

Figure 2-2: Communications Sector Architecture Model



NSRA Defined Core Network

Figure 2-3: Core Network



Illustrative Example of Feeder Group Work Product

CSRIC WG4 Ecosystem Categories	Company Types / Eco-	Network Operator (Fiber, Satellite,)	Network Operator (Satellite, FTTH, Cable, DSL)	Wireless Network Operator	Internet Service Provider	CDN Operator	Business VPN/VoIP Operator	Cloud (XaaS) Operator	OTT Service Provider	Content Producer/Distributor	App Producer/Distributor	Network HW/SW/OS/CPE Vendors	eCommerce Cos.	Edge Device Cos.	Social Media Cos.
Global Search Engine/Operating System Company															
Backbone Network Operator															
eCommerce/eStore Company															
Computer/Smartphone Manufacturer															
Cable Network/Content Provider															
Gov't Contractor/Equipment Manufacturer															
Operating System/App Manufacturer															
Federal/State/Local Government Net Ops															
Satellite Service Provider															
eCommerce/Resale Operator															
eCommerce/Online Auction Operator															
Rural LECS/ Coops															
TV/Smartphone Manufacturer															
Coal, Gas, Oil, Electric Power Companies															
Credit Card / PoS Operators															
SaaS / Cloud-Application Provider															
Router Manufacturer															
Wireless Network Operators															
CLECs															
Mid size Telecom/Broadband Companies															

WG4 Status

- WG4 has established various administrative capabilities (e.g., list-serve, membership contact information, SharePoint)
- WG4 has held biweekly conference calls with the Leadership team and its working group members
- WG4 has held a face-to-face meeting with 47 members participating
- WG4 is planning a second face-to-face meeting July 28th
- Segment and feeder initiative subgroups continue to meet and are developing input for the Final Report in uniform templates
- WG4 on track for March 2015 Final Report



Next Steps

- Complete Phase 1 initial segment and feeder initial draft inputs to the Final Report
- Host second face-to-face WG4 meeting July 28th
- Begin Phase 2 iterative process to align segment cyber risk management practices with NIST Cybersecurity Framework, informed by the feeder initiatives
- Plan Phase 3 integration process to develop Final Report to include findings, conclusions, and recommendations
- Continue Leadership and WG4 conference calls
- Provide periodic status updates to Steering Committee and Council

