Threat Intelligence Sharing in the Financial Services Sector

Munich, Germany

February 24th, 2016

Ray Irving
Director CEMEA, FS-ISAC

rirving@fsisac.eu

Agenda

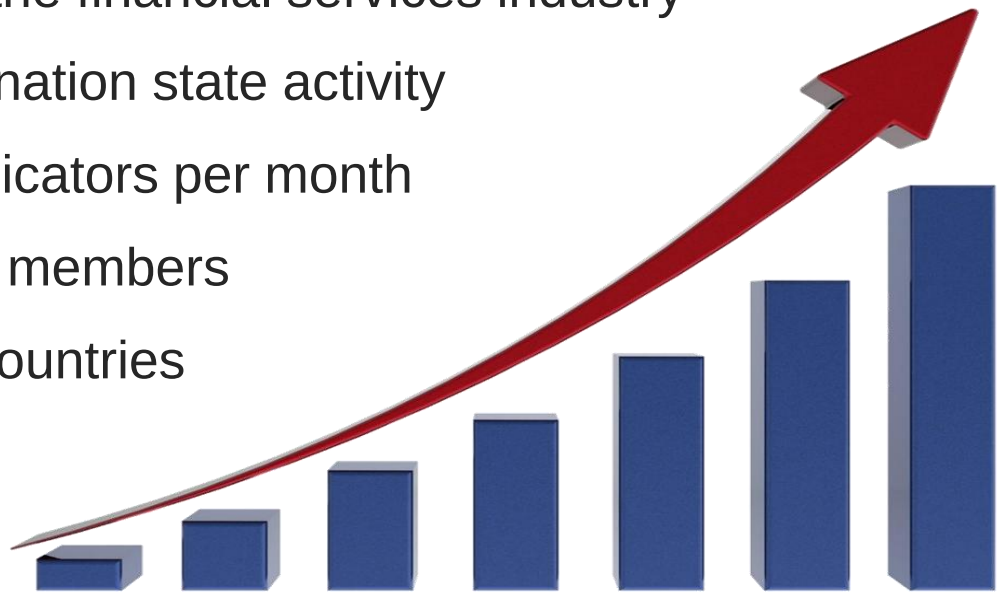
- About FS-ISAC
- About Threat Intelligence
- How FS-ISAC works
- European Sharing Landscape
- FS-ISAC European Strategy 2016
- Next Steps

About FS-ISAC

FINANCIAL SERVICES ISAC

MISSION: Share Timely, Relevant, Actionable Cyber and Physical Security Information & Analysis

- A nonprofit private sector initiative formed in 1999
- Designed/supported/owned by the financial services industry
- Mitigate cybercrime, hacktivist, nation state activity
- Process thousands of threat indicators per month
- 2004: 68 members; 2015: 6700 members
- Share information globally, 38 countries



"The FS-ISAC is not a service provider, it's a community…Like a neighborhood watch for cyber and physical hazards." – A Longtime Member

Investment in Protecting the Sector

- Soltra Edge: first industry-owned Cyber Threat Intelligence Repository
  - Uses industry standard protocols: Structured Threat Information eXpression (STIX™) & Trusted Automated eXchange of Indicator Information (TAXII™)
- Civil litigation actions against botnet infrastructures. Last two targeted botnets targeting UK FIs and customers:
  - Shylock 2014
  - Ramnit 2015
- Sector Resilience Activities:
  - Cyber Attack Against Payments
  - All Hazards Playbook and US sector activities could scale to Europe
- Education and Training:
  - Annual Summits (2 in the US, 1 in Europe, 1 in APAC). "Who's who" of risk & security executives participate and speak.
  - Member meetings, workshops and trainings.

The Case for Information Sharing

One Organization's Incident becomes the Industry Response

About Threat Intelligence

FINANCIAL SERVICES ISAC

What is intelligence?

"[I]ntelligence is more than information. It is knowledge that has been specially prepared for a customer's unique circumstances.

… The word '**knowledge**' highlights the need for human involvement. Intelligence collection systems produce…. data, not intelligence; only the human mind can provide that special touch that makes sense of data for different customers' requirements.

…. The special processing that partially defines **intelligence is the continual collection, verification, and analysis of information that allows us to understand the problem or situation in actionable terms** and then tailor a product in the context of the customer's circumstances.

…. If any of these essential attributes is missing, then the product remains information rather than intelligence."

– Captain William Brei, 'Getting Intelligence Right,' US JMIC Publication

Cyber Intelligence Consumers

Senior Leaders: support **business strategy** by delivering insight into **cyber threats** which could (or have) impacted **risk thresholds**.

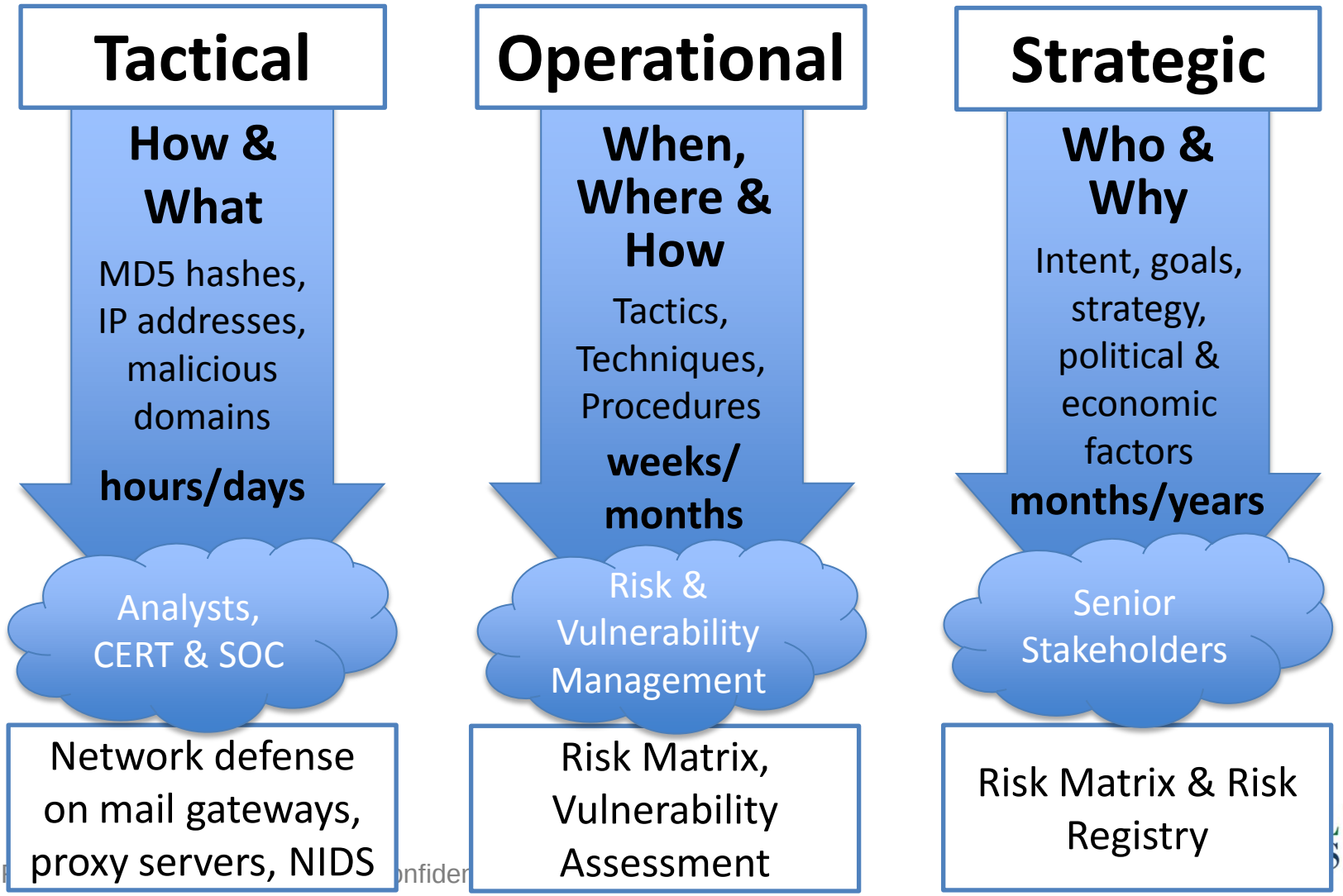
Middle Managers: **timely, relevant & applied** within a **risk management framework** to allow for **review & testing of policy & controls**.

Network Defenders tactical feeds of **technical indicators** supports the **real-time defence of networks** and provides a **measure of the effectiveness of IT security controls**.

Source: “Cyber Intelligence In Practice” a white paper produced by FSCG and FS-ISAC joint working group

FINANCIAL SERVICES ISAC

Types of Threat Intelligence



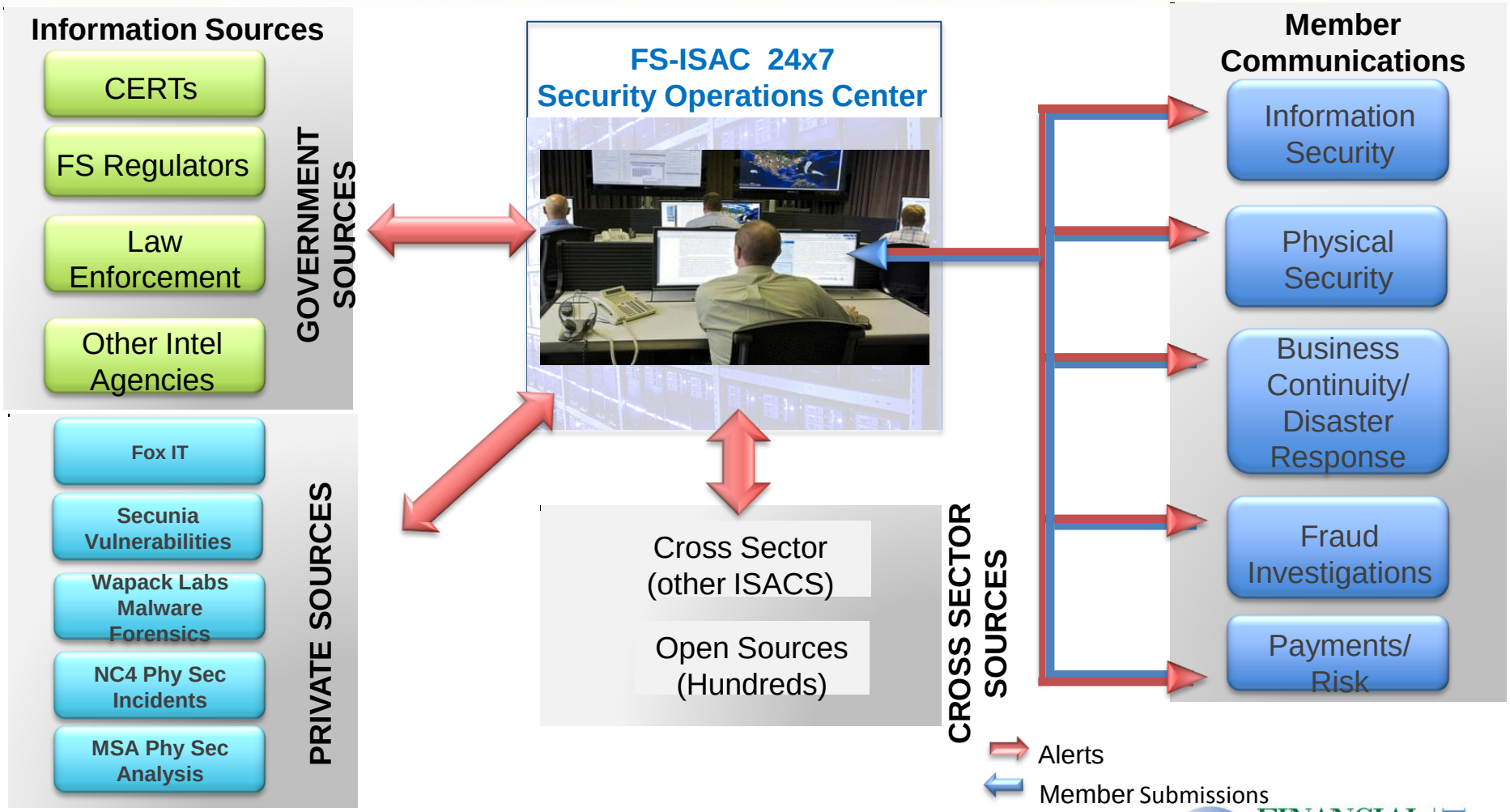
How FS-ISAC Works

FINANCIAL SERVICES ISAC

Tools for sharing

Tool	Intelligence Shared	Target Audience	Type of Intel
Cyber Intelligence mailing list	~40 mails/day: near real time observations, incidents, requests and queries from the community.	Threat Intelligence, Security Operations & Malware Analysts	Tactical, Operational
Portal Alerts	~20 alerts/day: Cyber and Physical Threats & Incidents; Vulnerabilities; Collective Intelligence.	Threat Intell. & Malware Analysts, SOC and Physical security staff.	Tactical, Operational
Daily Summary	Daily overview of all alerts.	Head of Intelligence or Security Operations.	Tactical, Operational
Bi-weekly Threat Calls	Threat landscape review including 3rd party briefings and threat level discussion.	Risk and Information Security Management	Operational, Strategic
Member Meetings & Summits	Member presentations on experiences and best practices.	All information security staff.	Operational, Strategic

FS-ISAC Information Flow



Traffic Light Protocol

Red: Restricted to a defined group (e.g., only those present in a meeting.) Information labeled RED should not be shared with anyone outside of the group

Amber: This information may be shared with FS-ISAC members.

Green: Information may be shared with FS-ISAC members and partners (e.g., vendors, MSSPs, customers). Information in this category is not to be shared in public forums

White: This information may be shared freely and is subject to standard copyright rules

Member Reports Incident to Cyber Intel list, or via anonymous submission

Members or IAT respond in real time with initial analysis and recommendations

IAT completes analysis, anonymizes the source, and generates alert to general membership

Types of FS-ISAC Alerts

SOLTRA

Alert Types

- ANC: Announcement
- CYT: Cyber Threat
- CYI: Cyber Incidents
- COI: Collective Intelligence
- CYV: Cyber Vulnerability
- PHT: Physical Threats
- PHI: Physical Incidents

Criticality and Priority:

- ANC = Priority – 1-10, 8-10 is high priority
- CYV = Risk – 1-10, 8-9 is Urgent, 10 is Crisis
- CYT = Risk – 1-10, 8-9 is Urgent, 10 is Crisis
- COI – No Criticality Metric
- PHT = Risk – 1-10. 8-9 is Urgent, 10 is Crisis

STIX™ TAXII™

Observables

Indicators

Incidents

TTPs

FINANCIAL SERVICES ISAC

European Sharing Landscape

FINANCIAL SERVICES ISAC

UK Finance Sector Cyber Related Collaboration Groups

and their National and International Links

International

UK

STRATEGY / POLICY

EBF / IBFed
European / International Banking Federation

Bank of England

CMORG
Cross Market Operational Resilience Group

CCG
Cyber Coord Group

PC ISAG
Payments Council - Information Security Advisory Group

IBSIG
Investment Banking Special Interest Group

BBA CAP
British Bankers' Association Cyber Advisory Panel

BBA / BIS Partnership
Business Innovation & Skills

BBA / NCCU
Liaison Group

STRATEGY / POLICY

ENISA
EGFI
European Network Information Security Agency
Experts Group Finance ICT

CSJDG
Cyber Security Joint Defence Group

FSCG
Finance Strategy & Coordination Group

FSIE
Financial Services Information Exchange

CPNI
Centre for the Protection of National Infrastructure

JWGI
Joint Working Group Initiative

AGENCIES

OCSIA
Office of Cyber Security & Information Assurance

CERT-UK

CISP
Cybersecurity Information Sharing Partnership

NCCU
Strategic Governance Group

NCCU
National Cyber Crime Unit

COLLABORATION / INTELLIGENCE SHARING

Europol
Cyber Crime Centre (EC3)

Interpol
Global Complex for Innovation (IGCI)

e-Crime: NFIB National Fraud Intelligence Bureau, **DCPCU** Dedicated Cheque/Plastic Crime Unit, **FFA UK** Financial Fraud Action UK, **FISS** Fraud Intelligence Sharing System, **Virtual Task Force** (fraternitas / e-Crime)

Metropolitan Police Cyber Crime Unit
Regional Cyber Crime Units
City of London Police

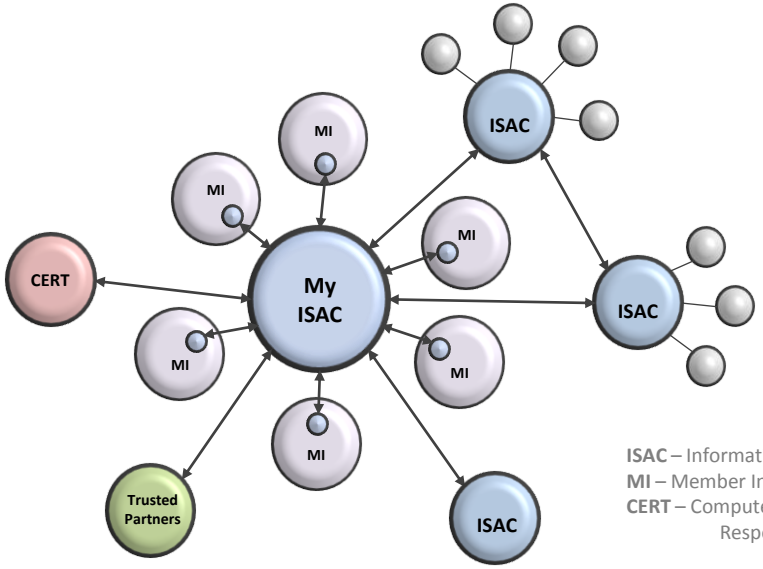
COLLABORATION / INTELLIGENCE SHARING

FS-ISAC
Financial Services Information Sharing and Analysis Centre

FI-ISAC
Financial Institutions Information Sharing and Analysis Centre

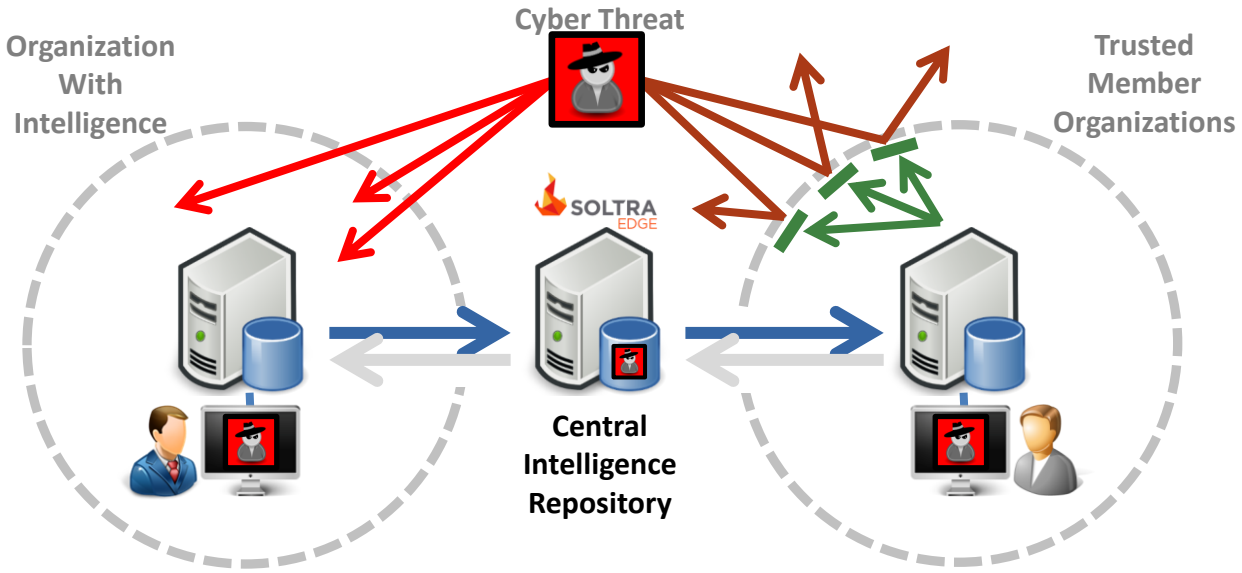
Community Defense Vision

- Intelligence Ecosystem
  - One Firm's Intelligence becomes an Entire Community's Defense



ISAC – Information Sharing Analysis Center
MI – Member Institution
CERT – Computer Emergency Response Team

Automated Community Defense

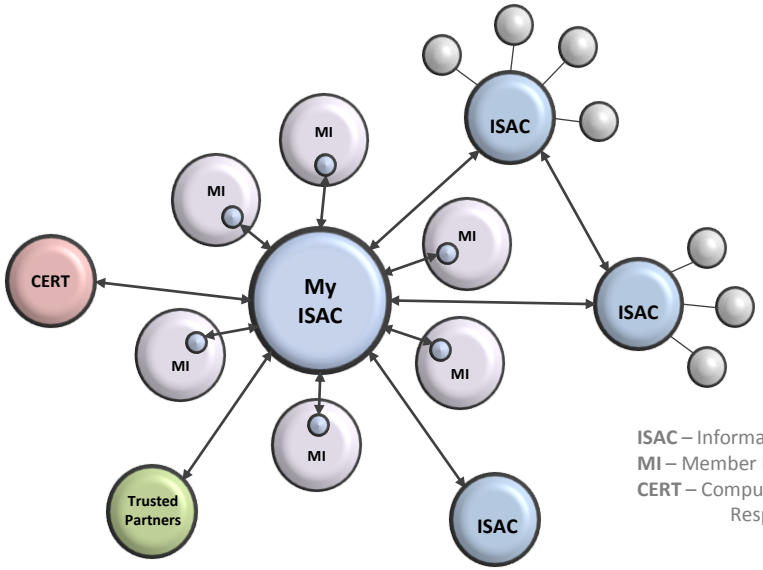


FS-ISAC European Strategy 2016

FINANCIAL SERVICES ISAC

“Build Trusted Communities”

	Task	What / How?
1.	**Build Trusted Communities**	i. Link into in-country sharing schemes ii. Encourage / develop the JWGI iii. FS-ISAC (add value by linking national into regional /global network)



ISAC – Information Sharing Analysis Center
MI – Member Institution
CERT – Computer Emergency Response Team

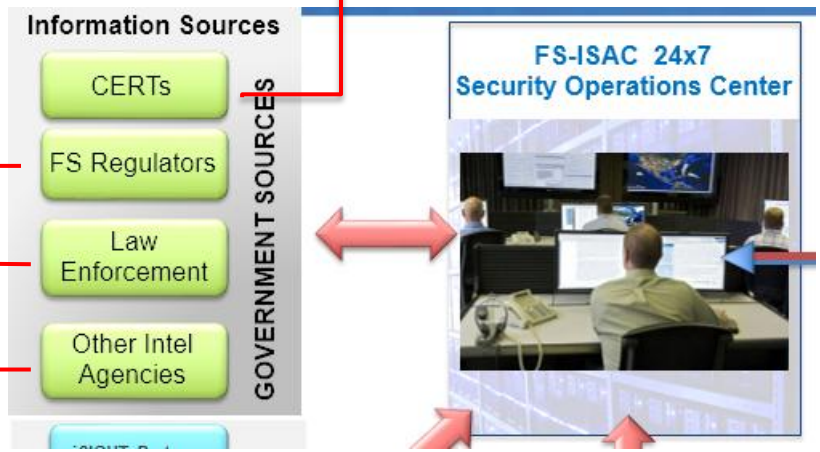
i. & iii. - Most EU countries have some degree of in-country sharing:

- FS-ISAC can be the proxy for sharing between in country and regional sharing schemes.
- Country-based memberships can encourage anonymous sharing.
- FS-ISAC LE/Govt relationships can help mitigate internal PPP issues.

FINANCIAL SERVICES ISAC

“Engagement & Collaboration”

	Task	What / How?
2.	**Engagement / Collaboration:** a. Law Enforcement b. Government c. Regulators	Link into / influence key nodes: Operational: i. Europol (EC3) ii. In-country LE / CERTs Policy / Regulation: i. European Banking Federation (EBF) ii. European Commission / Parliament iii. ENISA iv. National Banking Associations



Next Steps

- If you are an FS entity:
  - Cost to join FS-ISAC based on asset value (banks) or revenue (insurance).
  - We are a non profit so membership fees are very reasonable.
  - Talk to us about joining for a 6 month evaluation period.
- If you are a CERT:
  - We would like to establish a formal relationship with you.
  - As per the CERT UK model: this could be a Memorandum of Understanding allowing sharing of green and clear intel/products plus “as needed” sharing of amber intelligence.
  - Open to other suggestions.

Contact Information

Ray Irving Director,
Continental Europe, Middle East
and Africa

rirving@fsisac.eu

www.fsisac.com