Regulations and Standards for Confidential Computing

Mike Bursell
Executive Director, CCC

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Abstract

- Industry recognition of Confidential Computing has risen significantly and there is availability in public and private clouds: what is next? One of the ways to drive demand for CC solutions is via regulations and standards. This session introduces some of the ways this is happening and discusses some of the options for the future - and ways for individuals and organisations to get involved.

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Agenda

The Confidential Computing Consortium
Why regulations and standards?
Regulations
Standards
The work of the CCC

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The Confidential Computing Consortium

The CCC

“The Confidential Computing Consortium (CCC) brings together hardware vendors, cloud providers, and software developers to accelerate the adoption of Trusted Execution Environment (TEE) technologies and standards.”

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…your organisation should probably be a member!

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Why regulations and standards?

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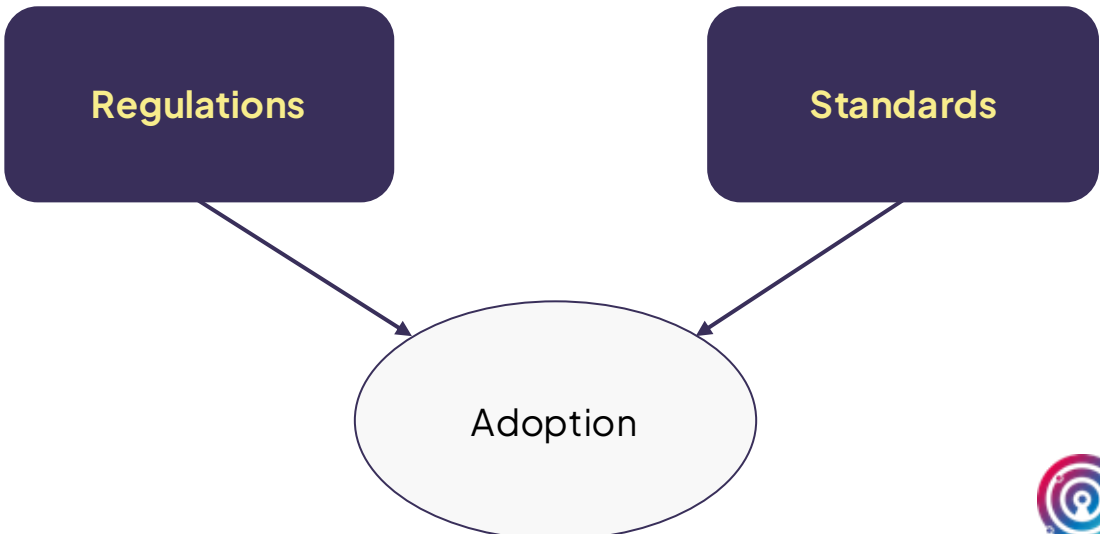

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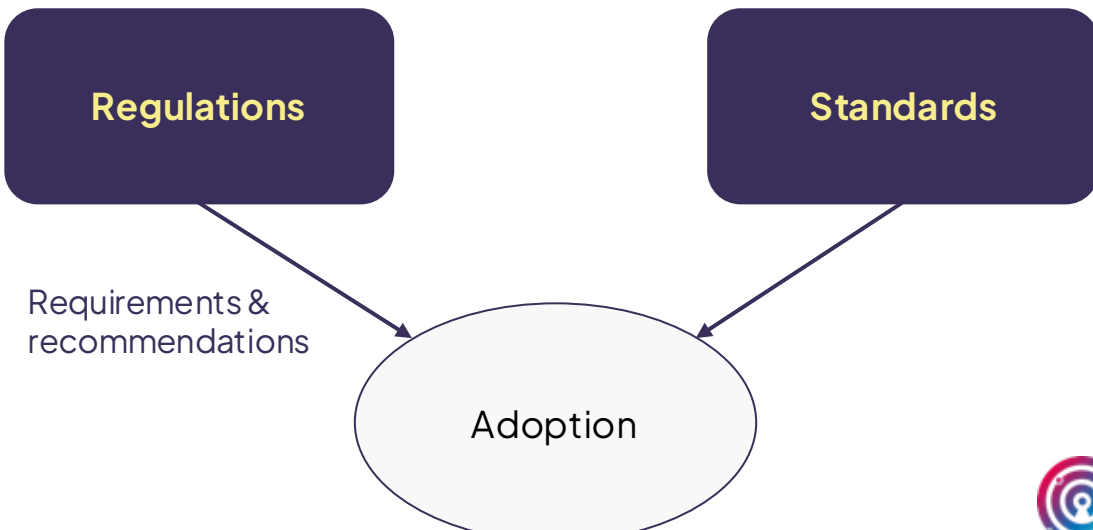

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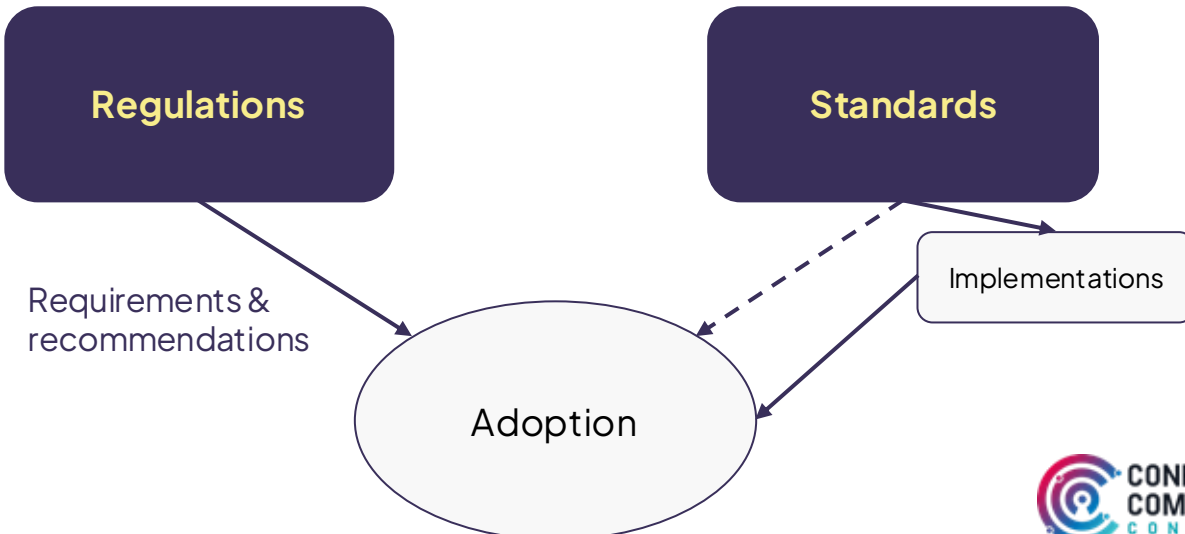

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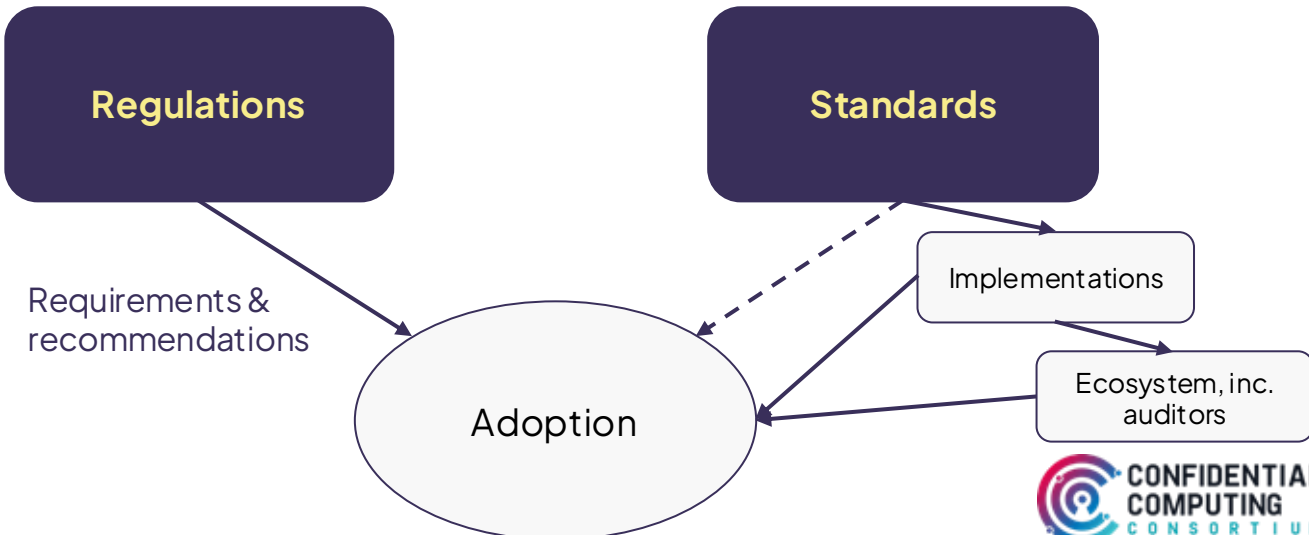

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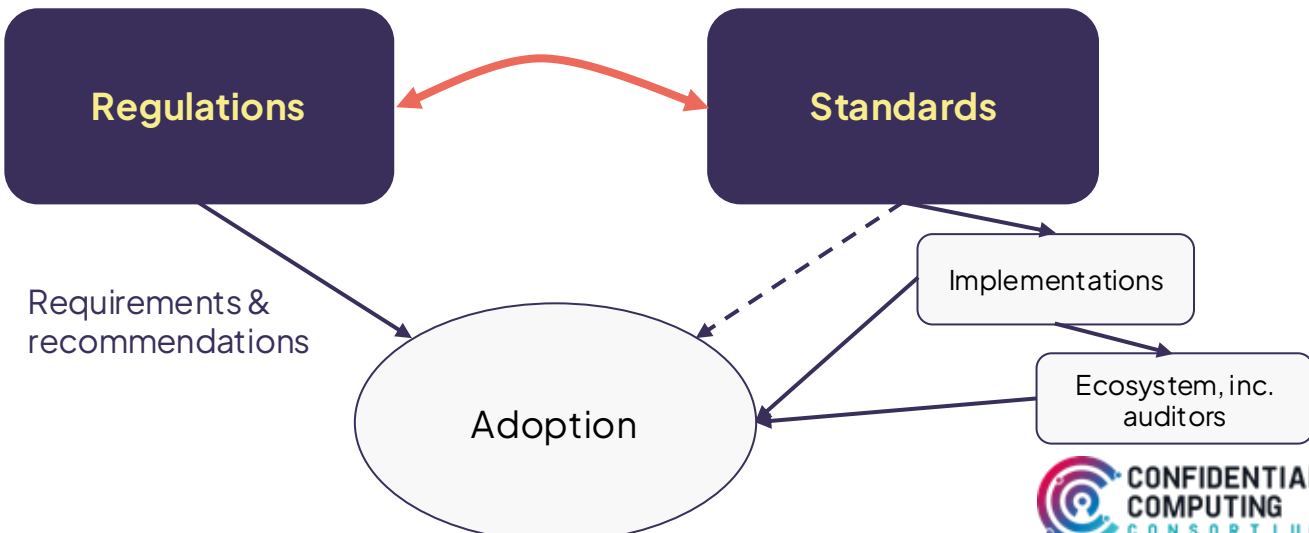

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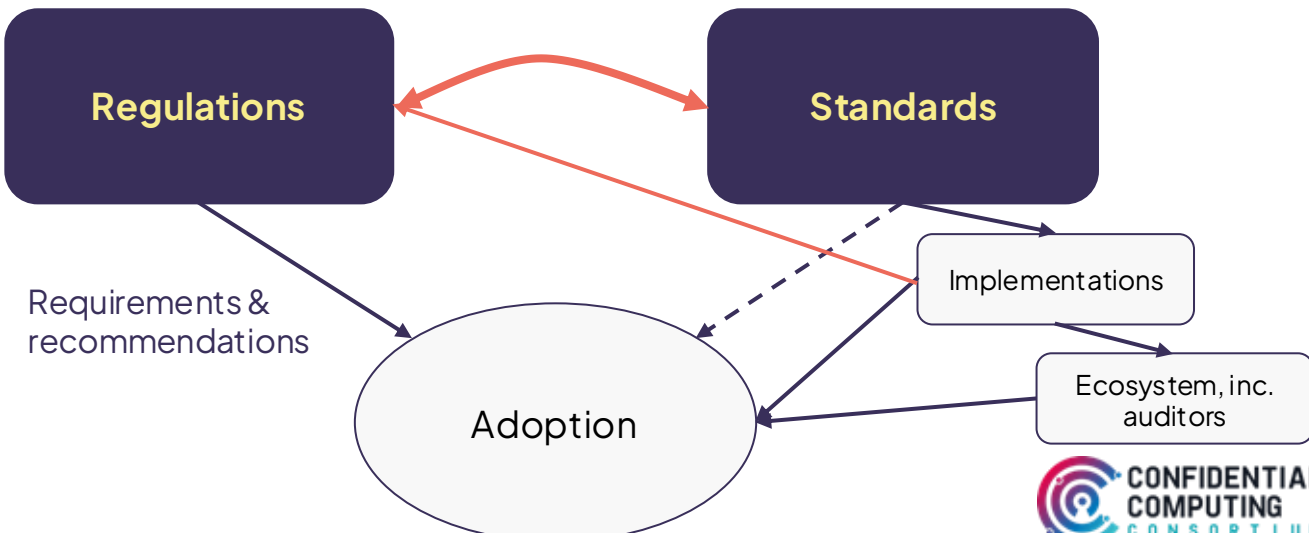
Why do regulations and standards matter to us?



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Regulations & Regulators

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Regulators

National bodies (e.g. BSI, ANSSI, ANSI, FDA, Singapore MAS, UK-PRA)
International bodies (e.g. ISO, PCI-SSC)
Sector-specific (e.g. EBA, ESMA)

Typically move slowly

- except in response to specific events
  - "knee-jerk" regulations* can be flawed!

*particularly those which which point at standards

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Regulators

Mostly **MUST** - but start with **SHOULD**

Often require technical standards in place - otherwise how can they enforce?

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Specific areas CC interest

Financial
Digital Sovereignty
Agentic AI
Web3 (+ cryptocurrencies?)
Data privacy (e.g. GDPR)
Healthcare
National Security
?AI

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Considerable overlap between these!

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Standards & Standards Bodies

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Regulations easier to drive with standards

Some key bodies:

- IETF - network protocols

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- NIST - officially USA; strong security history

NIST

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- ANSSI (also a regulatory body)

Question: who are we trying to influence or help?

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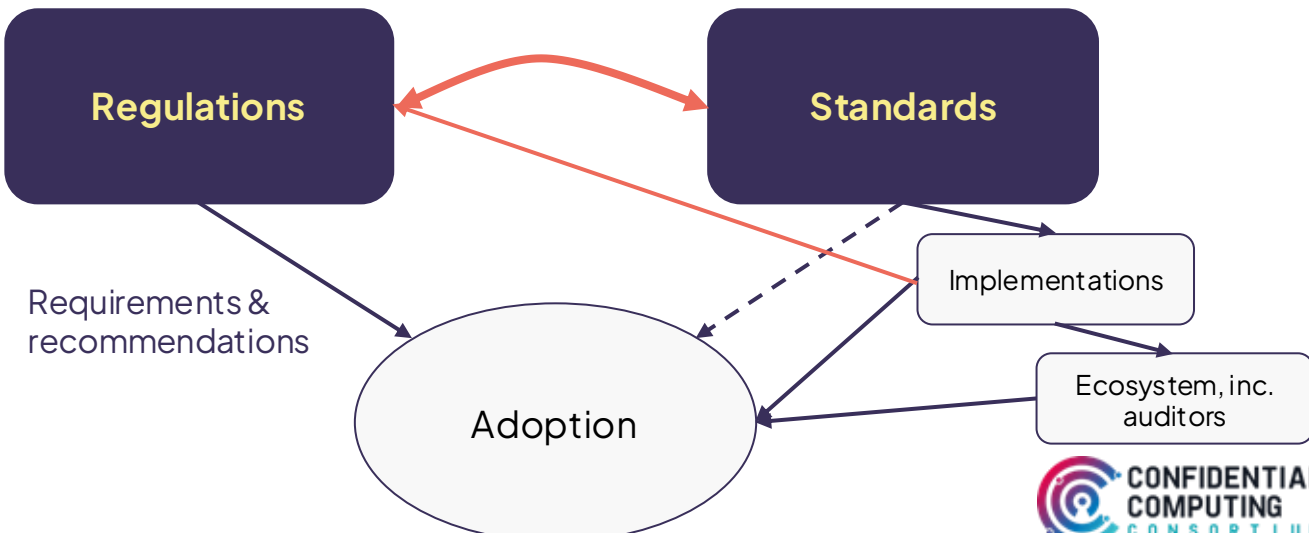
Why do regulations and standards matter to us?



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Technical standards – areas

Some of the areas

- Protocols
  - Networking
  - Storage
  - Key exchange
- Attestation
- Multiple TEEs (e.g. TDISP)
- Cross-system TEEs (beyond TDISP)
- TEE integration

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“What is a CC-enabled app?”

Presumably…

- an application (or service)
- that meets the CCC’s definition of Confidential Computing
  - making use of hardware-based TEEs
  - making use of remote attestation
- **maybe** using particular protocols
- BUT…

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“What is CC?”

BUT…

- We don’t have a formal technical definition of a hardware-based TEE
- And we have lots of attestation mechanisms

This needs definition!
“Confidential Computing Assurance Framework”?

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“Confidential Computing Assurance Framework”?

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The work of the CCC

What's most important?

Lots of interdependencies across standards

- Hierarchies of protocols and models …
- … therefore of standards

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We need to identify key priorities & bodies and then engage with them

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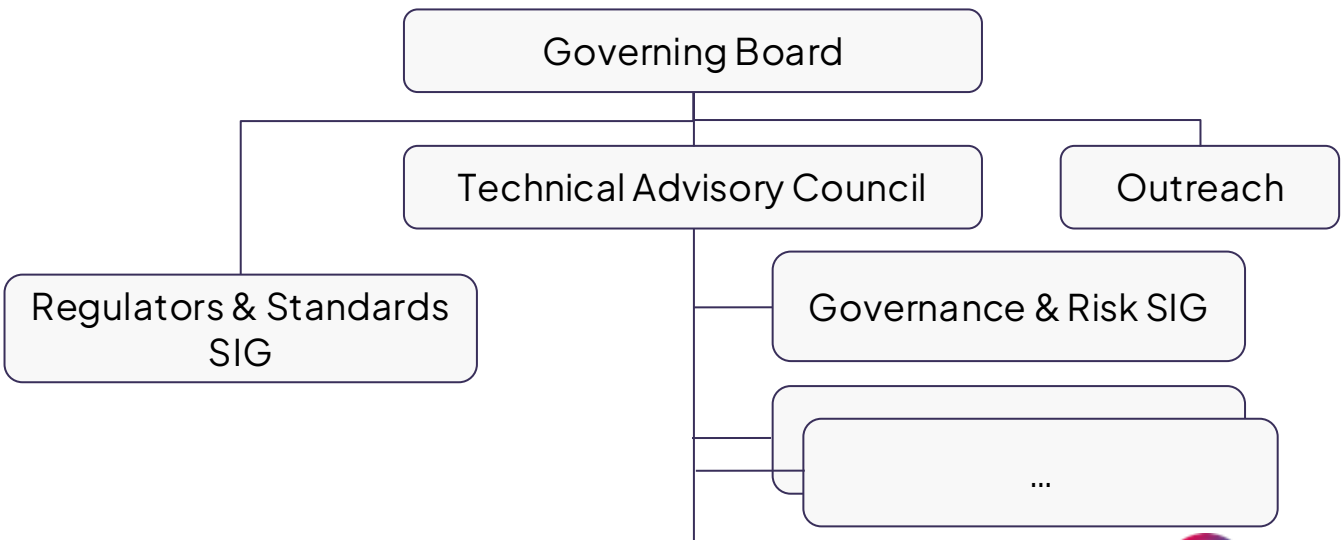
CCC committees & SIGS



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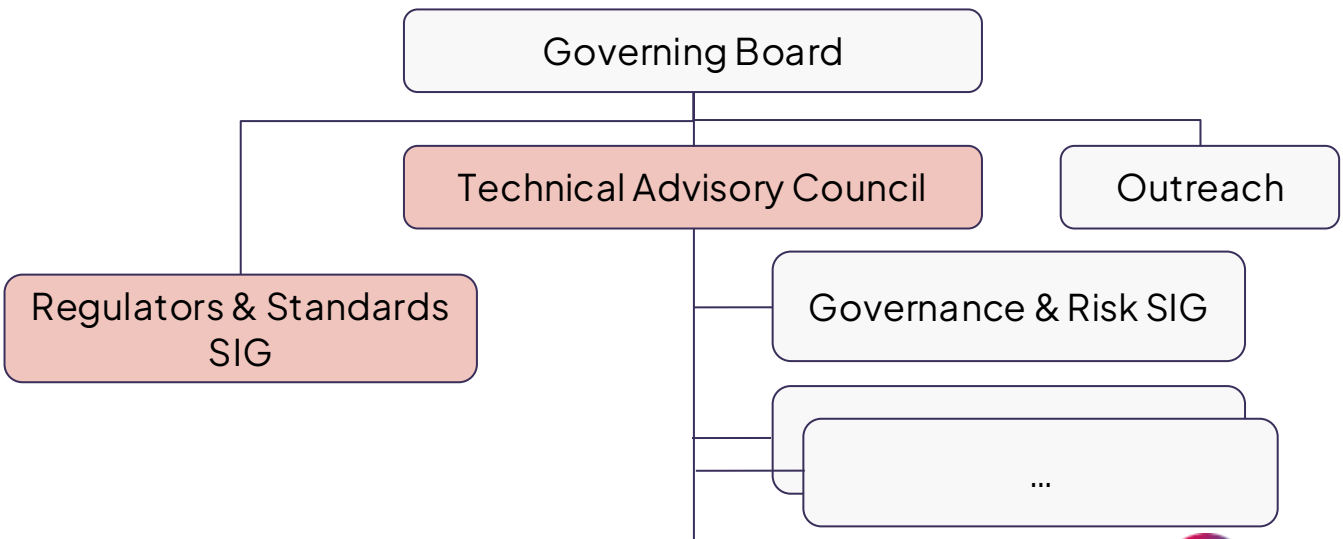

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CCC – getting involved

You don’t need to be a member to participate

We don’t just need tech experts

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We need [tech|standards|law] experts

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TAC + Regs & Standards SIG

- https://confidentialcomputing.io/about/committees/
- Email lists
- Slack channels
- Meetings every two weeks (fortnightly)

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Questions