Cybercrime: a complex problem requiring a multi-faceted response

26 March 2014

Challenges and Prospects of Frameworks to combat Cybercrime – a critical perspective

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''Cyber crime 'is a national crisis''
June 20, 2013

''National crisis' of cybercrime poses major threat
to SA business'
Sep 18, 2013

'Cybercrime 'national crisis' costing SA R1b a year'
Oct 23, 2013

What must we do to decrease Cyber Crime?

My hypothesis

to decrease Cyber Crime

we need

to move towards a more secure Cyber Space

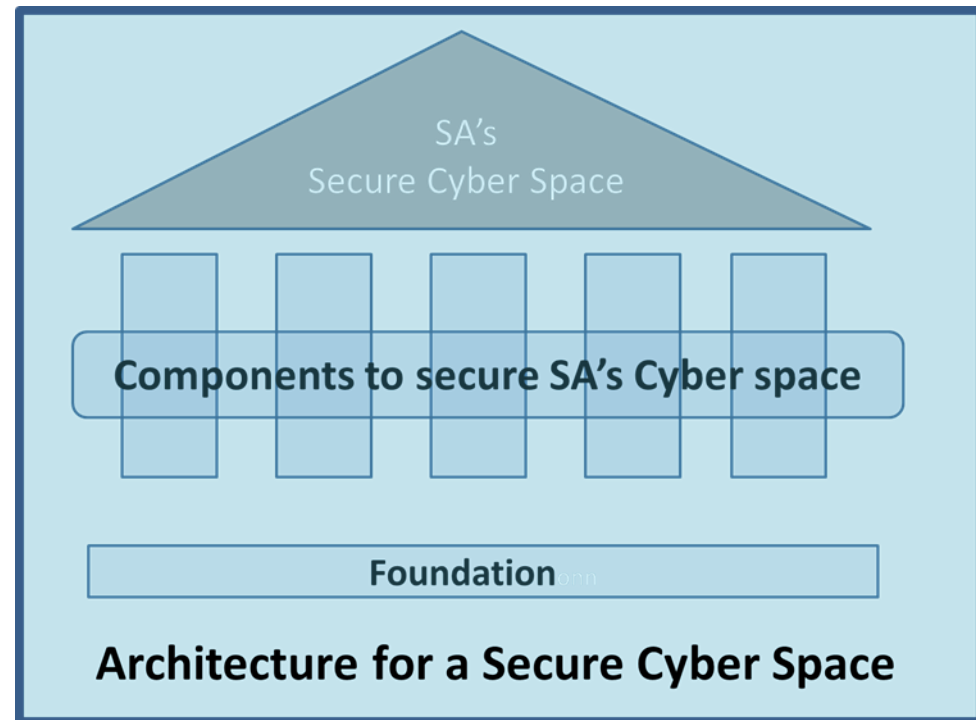we need

a proper Architecture for a Secure Cyber Space

SA's
Secure Cyber Space

Components to secure SA's Cyber space

Foundation

Architecture for a Secure Cyber Space

SA's
Secure Cyber Space

Components to secure SA's Cyber space
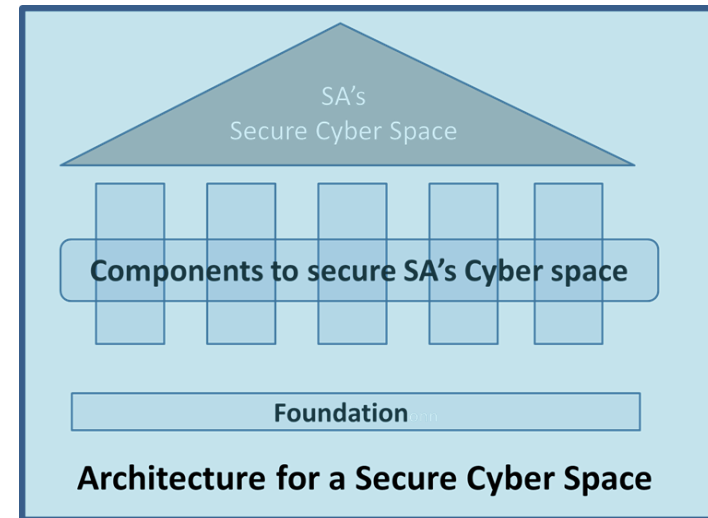
Foundation

Architecture for a Secure Cyber Space

- **What is this Foundation?**
- **What are these components?**
- **What is the 'gold standard' to protect a country's Cyber Space?**

Determining the 'gold standard':

Foundation :

SA's
Secure Cyber Space

Components to secure SA's Cyber space

Foundation

Architecture for a Secure Cyber Space

(Government's) primary role is to define the national strategy and provide the policy framework. The policy framework describes the architecture by which the national efforts are built and operated.
Best Practices for National CyberSecurity: Building a National Computer Security Incident Management Capability, Version 2.0, 2011

Each Member State, shall put in place a national cyber security policy ...
Draft African Union Convention on the Confidence and Security in Cyberspace
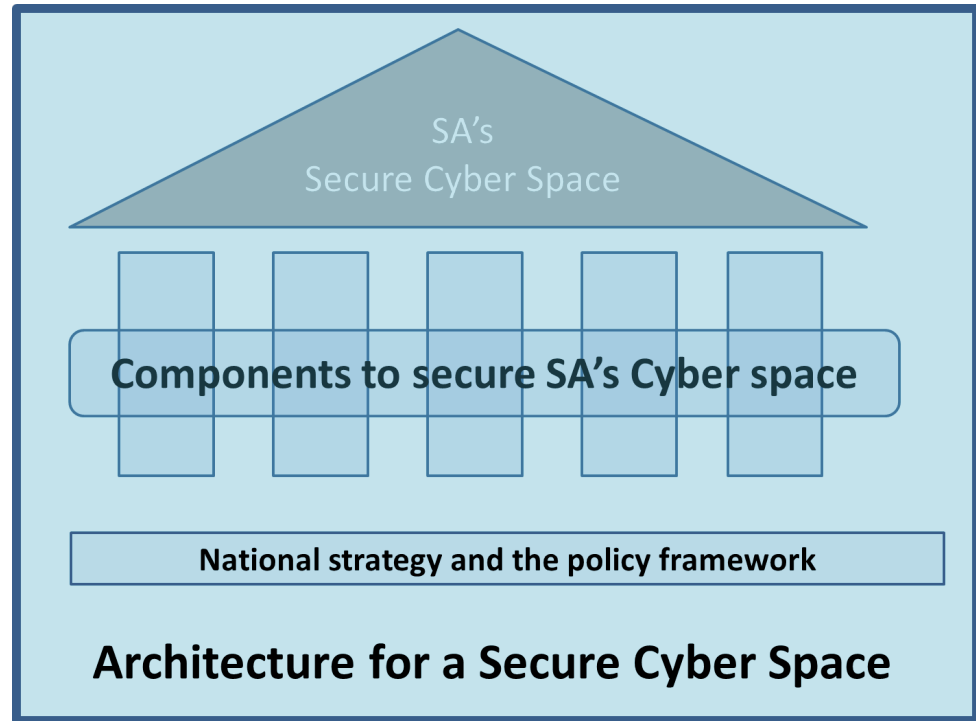
SA's
Secure Cyber Space

Components to secure SA's Cyber space

National strategy and the policy framework

Architecture for a Secure Cyber Space

Determining the 'gold standard':

Components

Architecture for a Secure Cyber Space

Let's investigate some other existing National Strategies to determine *some* common components are

Component 1
A National program for Cyber Security skills/capacity building

- **India's National Cyber Security Policy**

  8) To create a workforce of 500,000 professionals skilled in cyber security in the next 5 years through capacity building, skill development and training.

- **Draft African Union Convention on the Confidence and Security in Cyberspace**

  - Each Member State have to undertake measures to develop capacity building measures

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SA's
Secure Cyber Space

A National program for Cyber Security skills/ capacity building

)

National strategy and the policy framework

Architecture for a Secure Cyber Space

Component 1
A National program for Cyber Security skills/capacity building

- **Shortage of skills in SA**

- **UJ effort**

  - Certificate in Cyber Security
  - Certificate in Digital Forensics

Component 2
A Culture of Cyber Security

- **India's National Cyber Security Policy**

12) To create a culture of cyber security and privacy enabling responsible user behaviour & actions through an effective communication and promotion strategy.

- **AU's Draft Convention**

  - Each Member State have to undertake measures to take the lead in the development of a cyber security culture within its borders and to this end enhance awareness-building

SA's
Secure Cyber Space

A National program for Cyber Security skills/ capacity building

A National Cyber Security Awareness Program (Cyber Security Cuilture)

National strategy and the policy framework

Architecture for a Secure Cyber Space

Component 2
A Culture of Cyber Security

Isolated initiatives

- **SACSAA**
  - **UJ, NMMU, UNISA**

- **CSIR**

- **Integrated national initiative needed**

Component 3
A National Critical Information Infrastructure Protection Centre

- **India's National Cyber Security Policy**

5) To enhance the protection and resilience of Nation's critical information infrastructure by operating a 24x7 National Critical Information Infrastructure Protection Centre (NCIIPC) and mandating security practices related to the design, acquisition, development, use and operation of information resources.

- **AU's Draft Convention**

  - Member States have to undertake necessary measures to encourage the
    establishment of institutions ...such as Computer Emergency Response
    Team (CERT) or Computer Security Incident Response Team (CSIF

SA's
Secure Cyber Space

A National program for Cyber Security skills/ capacity building

A National Cyber Security Awareness Program (Cyber Security Cuilture)

A National Critical Information Infrastructure Protection Centre

National strategy and the policy framework

Architecture for a Secure Cyber Space

Component 3
A National Critical Information Infrastructure Protection Centre

- **National CSIRT**

- **Cyber Threat Intelligence**

- **Cyber Counterintelligence**
  - Centre for Cyber Security at UJ

Component 4
Public-Private Partnerships in the Cyber Space

- **India's National Cyber Security Policy**

13) To develop effective public private partnerships and collaborative engagements through technical and operational cooperation and contribution for enhancing the security of cyberspace.

- **AU's Draft Convention**

- Each Member State have to undertake measures to adopt public-private partnership as a model to engage industry, civil society and the academia ..

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SA's
Secure Cyber Space

| A National program for Cyber Security skills/ capacity building | A National Cyber Security Awareness Program (Cyber Security Cuilture) | A National Critical Information Infrastructure Protection Centre | Public-Private Partner Ships | |

National strategy and the policy framework

Architecture for a Secure Cyber Space

Component 4
Public-Private Partnerships in the Cyber Space

- **Most Critical Infrastructures are in private hands**

- **Government needs the private sector in this matter**

Component 5
Gov support for cyber security in SMMEs

- **India's National Cyber Security Policy**

9) To provide fiscal benefits to businesses for adoption of standard security practices and processes.

SA's
Secure Cyber Space

| A National program for Cyber Security skills/ capacity building | A National Cyber Security Awareness Program (Cyber Security Cuilture) | A National Critical Information Infrastructure Protection Centre | Public-Private Partner Ships | Gov support for cyber sec rity in SMMEs |

National strategy and the policy framework

Architecture for a Secure Cyber Space

Component 5
Gov support for cyber security in SMMEs

SMMEs as growing targets of Cybercrime

- 150 000 SMMEs in SA are dependent on their cyber presence

- > 1,5 million jobs (in SMMEs) exist because of this cyber presence

- SMMEs are a growing target for cyber criminals

- POPI

SMMEs as growing targets of Cybercrime

USA

With small businesses prime targets for cyber attacks,
the US Government announced (2011) that it designed
a free online resource (tool) to help companies improve
their online security

http://www.secure128.com/u-s--government-helping-small-businesses-combat-cyberattacks.aspx

Component 5
Gov support for cyber security in SMMEs

- The UK government's Technology Strategy Board has extended its Innovation Vouchers scheme to allow small and medium enterprises (SMEs) to bid for up to £5,000 from a £500,000 pot to improve their cyber security by bringing in outside expertise.

http://news.techworld.com/security/3443429/uk-government-offers-smes-5000-to-improve-their-cyber-security/

SA's
Secure Cyber Space

| A National program for Cyber Security skills/ capacity building | A National Cyber Security Awareness Program (Cyber Security Cuilture) | A National Critical Information Infrastructure Protection Centre | Public-Private Partner Ships | Gov support for cyber sec rity in SMMEs | .... More |

National strategy and the policy framework

Architecture for a Secure Cyber Space

Architecture for a Secure Cyber Space
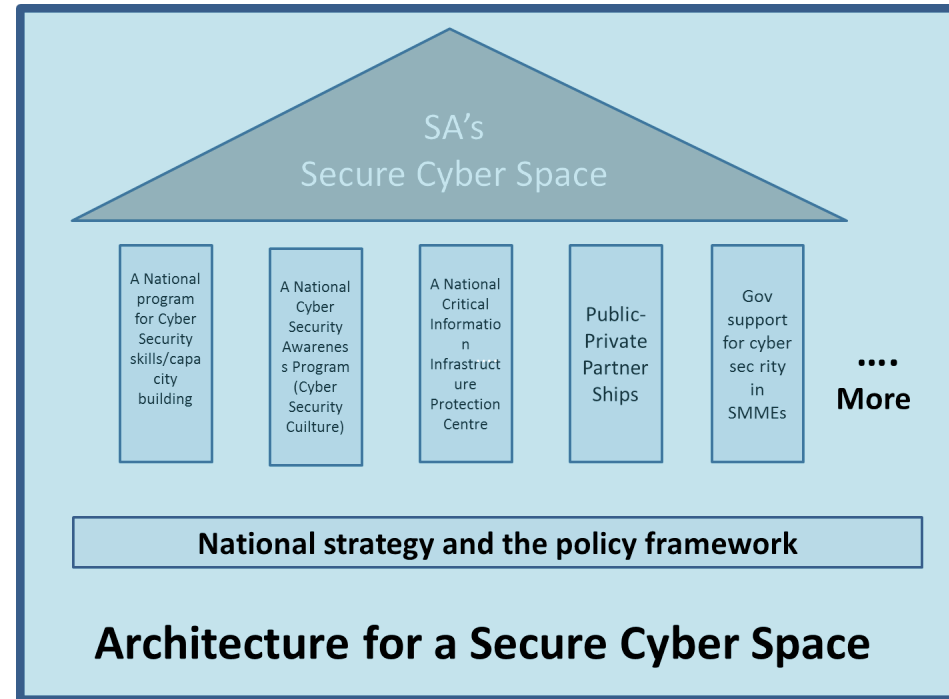
More components

- International cooperation
- Legal infrastructure

My hypothesis

to decrease Cyber Crime

we need

to move towards a more secure Cyber Space

we need

a proper Architecture for a Secure Cyber Space

Conclusion – as matters stand at the moment

Therefore we will not decrease Cyber Crime
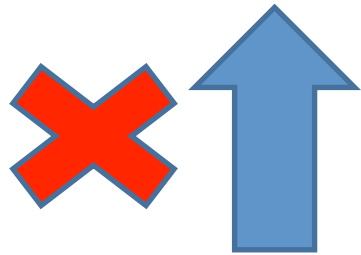
Therefore we are not moving to a more secure Cyber Space
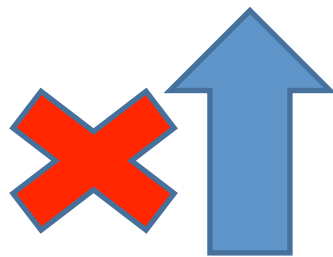
We do not have a proper Architecture for a Secure SA Cyber Space

1. **Norton Report 2012/3**

   South Africa have the 3rd highest number of cybercrime victims in the world

2. **FBI : South Africa is a cyber crime hot spot**

   The FBI listed South Africa as the sixth most active country where cyber crime took place
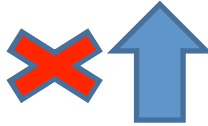
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Conclusion

Therefore we will not decrease Cyber Crime

Therefore we are not moving to a more secure Cyber Space
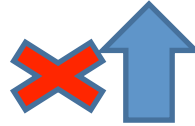
We do not have a proper Architecture for a Secure Cyber Space

A proper integrated Architecture for a Secure Cyber Space for SA is the starting point to start decreasing Cyber Crime and is URGENTLY needed !!!

Conclusion

Therefore we will not decrease Cyber Crime

There fore we are not moving to a more secure Cyber Space

We do not have a proper Architecture for a Secure Cyber Space

- **SA will NOT reduce Cybercrime before we have a proper Architecture for a Secure Cyber Space**

- **This message MUST be conveyed to the highest levels in SA**

Thanks

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