

Trustworthy ICT and Cyber Security Research – Adding value from an African perspective

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Why?

- Why should research about Trustworthy ICT and Cyber Security originating from Africa add value and be useful to the rest of the world?
- What value can research from Africa add?
- Let us investigate a few quotes about ICT and Cyber Security made about Africa in the last few years:



Africa through the Looking Glass

Africa: The Future Home of the World's Largest Botnet?

'IT experts estimate an 80% infection rate on all PCs continent-wide (in Africa), including government computers. It is the cyber equivalent of a pandemic. Few can afford to pay for anti-virus software.....'



Africa through the Looking Glass

'Think that Russia and China pose the biggest hacking threats of our time? The virus-plagued computers in Africa could take the entire world economy offline.'



Africa through the Looking Glass

'Unfortunately, in cyberspace, the whole is only as strong as its weakest link -- and the majority of African countries are downright frail.

The biggest botnet the world has ever known could be lurking there.'



Africa through the Looking Glass

'As Internet penetration increases across the continent, so does the risk of sophisticated cyber-attacks, threatening African nations' security, infrastructure, economic growth and citizen services.'



Why is Africa at risk cyber security-wise?

‘Developing countries, such as those in Africa, are particularly vulnerable to cyber-attacks due to a combination of factors, including

- increasing Internet penetration rates,*
- high levels of computer illiteracy, and*
- ineffective legislation.*

These factors all introduce a higher level of cyber security risks and expose the critical infrastructures in such countries to higher levels of risk. ‘



What are the reasons for such quotes and negativity?

- 1 Increasing Bandwidth
- 2 Increasing Use of Wireless technologies and infrastructure
- 3 Lack of Cyber security awareness
- 4 Ineffective Legislation and Policies
- 5 Technical cyber security measures
- 6 Lack of Parliamentary oversight



What are the reasons for such quotes and negativity?

1 Increasing Bandwidth

2 Increasing Use of Wireless technologies and infrastructure

‘Millions of Africans are using mobile phones to pay bills, move cash and buy basic everyday items.

Africa has the fastest-growing mobile phone market in the world and most of the operators are local firms.’



What are the reasons for such quotes and negativity?

1 Increasing Bandwidth

2 Increasing Use of Wireless technologies and infrastructure

3 Lack of Cyber security awareness

'as more individuals worldwide gain Internet access through mobile phones, Cyber criminals will have millions of inexperienced users to dupe with unsophisticated or well-worn scamming techniques that more savvy users grew wise to (or fell victim to) ages ago.'



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What value can we add from an African perspective?

- Any research ignoring these factors, will not solve Africa's problems.
- Normal first world security solutions may not work in Africa
- By researching these factors in cooperation with international Partners, real solutions for Africa can be found.
- Such solutions, originating from Africa, can help to address similar problems in other developing countries, and may form good cooperation research platforms between Africa and the rest of the world.



What value can we add from an African perspective?

Three examples of models following from relevant research in South Africa:

1. A Community-Oriented Approach to CIIP in Developing Countries

- Bottom-up approach vs Top down approach

2. A New Role for Information Service Providers (ISPs) as Part of Critical Information Infrastructure Protection and Cyber Security in Africa

- From Security-thick users to Security-thin users (prototype)

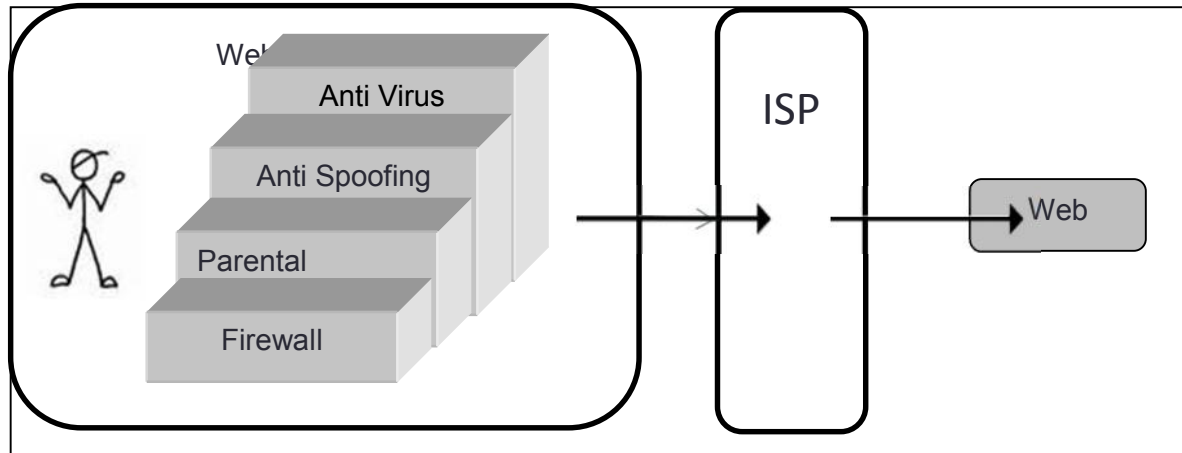
3. South African Academic Cyber Security Alliance (SAACSA)

- UJ, NMMU, UNISA

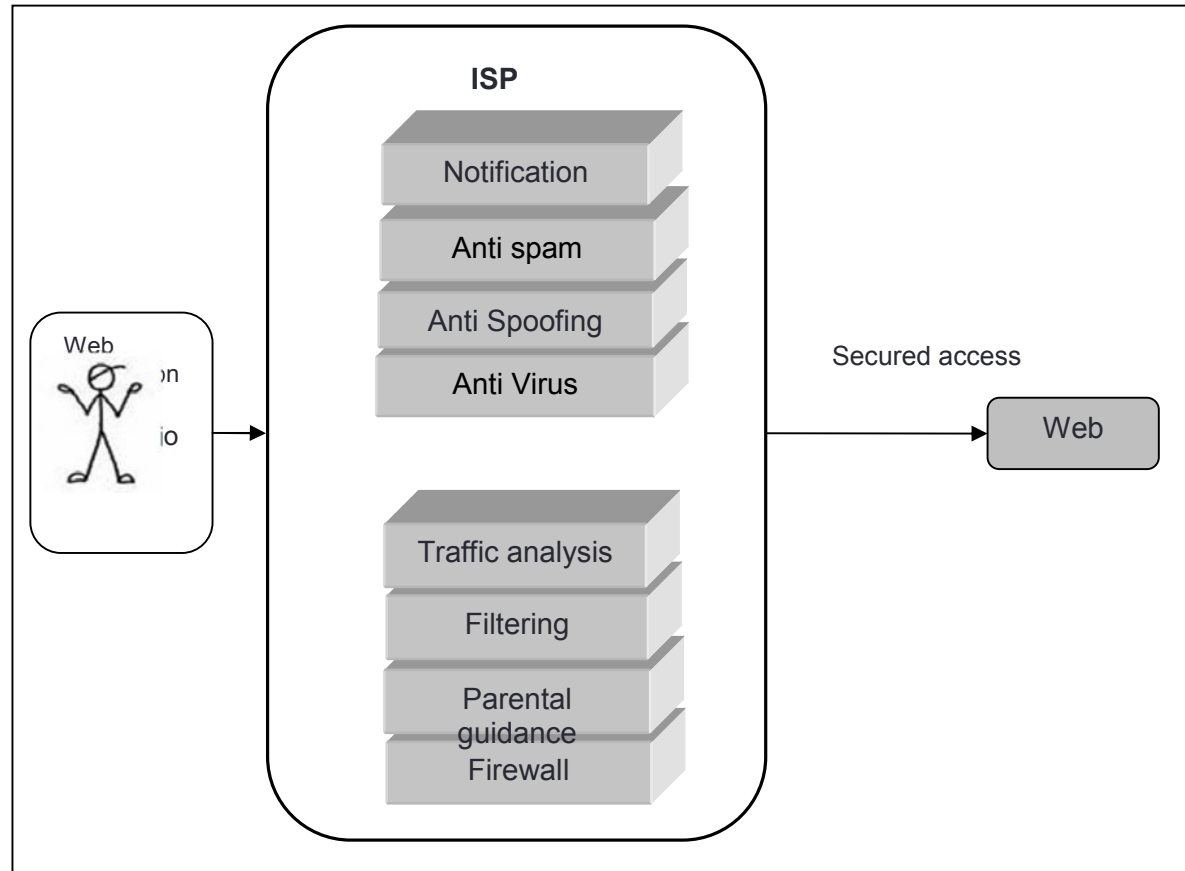


2. A New Role for Information Service Providers (ISPs) as Part of Critical Information Infrastructure Protection and Cyber Security in Africa

Thick-security end user



Thin-security end user



3. South African Academic Cyber Security Alliance (SAACSA)

- **National Cyber Security Awareness Day**
 - Cyber Security Awareness Workbook for Schools (hard copy)
 - Cyber Security Awareness Board games for Schools
 - DoC



As far as

Trustworthy ICT and Cyber Security Research

is concerned

We can and want to add value



Thanks

