



# Information Warfare and the Protection of Critical Infrastructures

German Information Security Agency

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22.01.02

# Definition IO



- Action taken to affect adversary information and information systems while defending one's own information and information systems.

# Saying



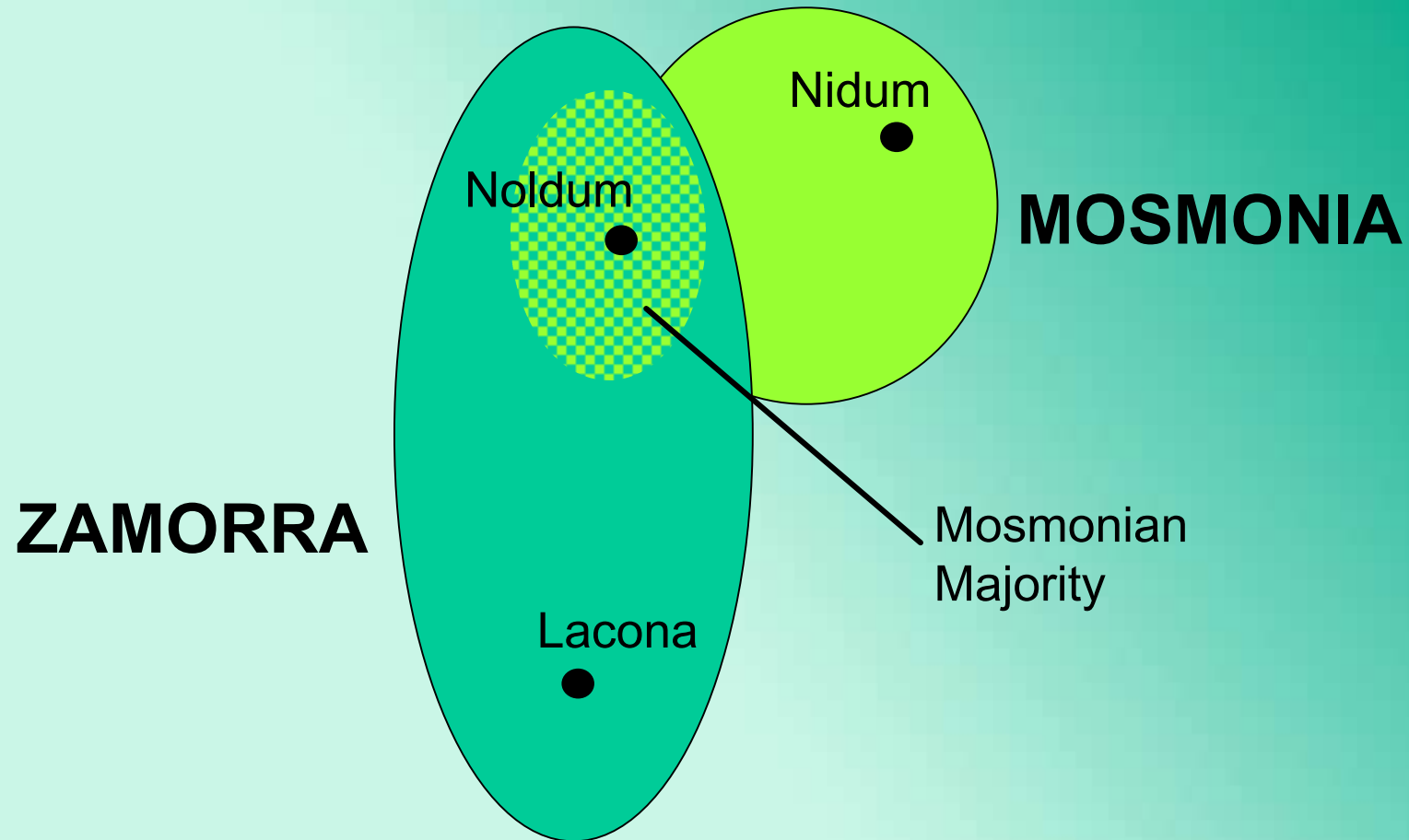
Was du nicht willst was man dir tut,  
das füg´ auch keinem andren zu.



An eye for an eye and a tooth for a tooth!



# Szenario



# Aim: achieve national objectives and protect MOSMONIA interests



- Use of military forces in peacetime ... **maintains [our] influence** in foreign lands.
- When ... instruments of national power are unable or inappropriate to achieve national objectives and protect national interests, ... **employ military forces to conduct ... operations ...**  
to **achieve national objectives and protect MOSMONIA interests**

# Timing



- Information Warfare may have it's greatest impact as a deterrent **in peace** and during the **initial stages** of a crisis.

# Offensive IW Means



- ...
- Electronic Warfare
- Physical attack / destruction
- **Computer Network Attack CNA**  
see  
Appendix “Supplemental IW Guidance“  
[SECRET]
- ...

# Strategic IW Targets



- Offensive IW for strategic level objectives ... may be conducted to influence or affect all elements (political, military, **economic**, informational) of an adversary's national power.

# Operational Targets of IW



- IW ... targets ... automated control of **key commercial infrastructures** such as land- and space-based telecommunications and electrical power
- ... Transportation, Energy, Finance, Manufacturing ...

# Military Dependency on Commercial Infrastructures



- ...mobility and sustainment of forces **dependent** on **commercial infrastructures** that include
- international telecommunications,
  - the public switched network,
  - commercial satellites and ground stations
  - transportation systems and
  - electric power grids.
- 
- The protection of these infrastructures falls **outside** the authority and responsibility of the DoD

# Critical Infrastructures

## Definition



Organisations and establishments,  
which are  
(absolutely) essential to the community and  
failure or disruption of which  
would result in  
long-lasting supply bottlenecks and/or other  
dramatic consequences  
for substantial elements of the community.

# System of Systems



System

Infrastructures

# Types of Infrastructure



## People

„Service Personnel“, Permanent Staff, Specialists

## Process

Software, Institutions, Organisations, Procedures

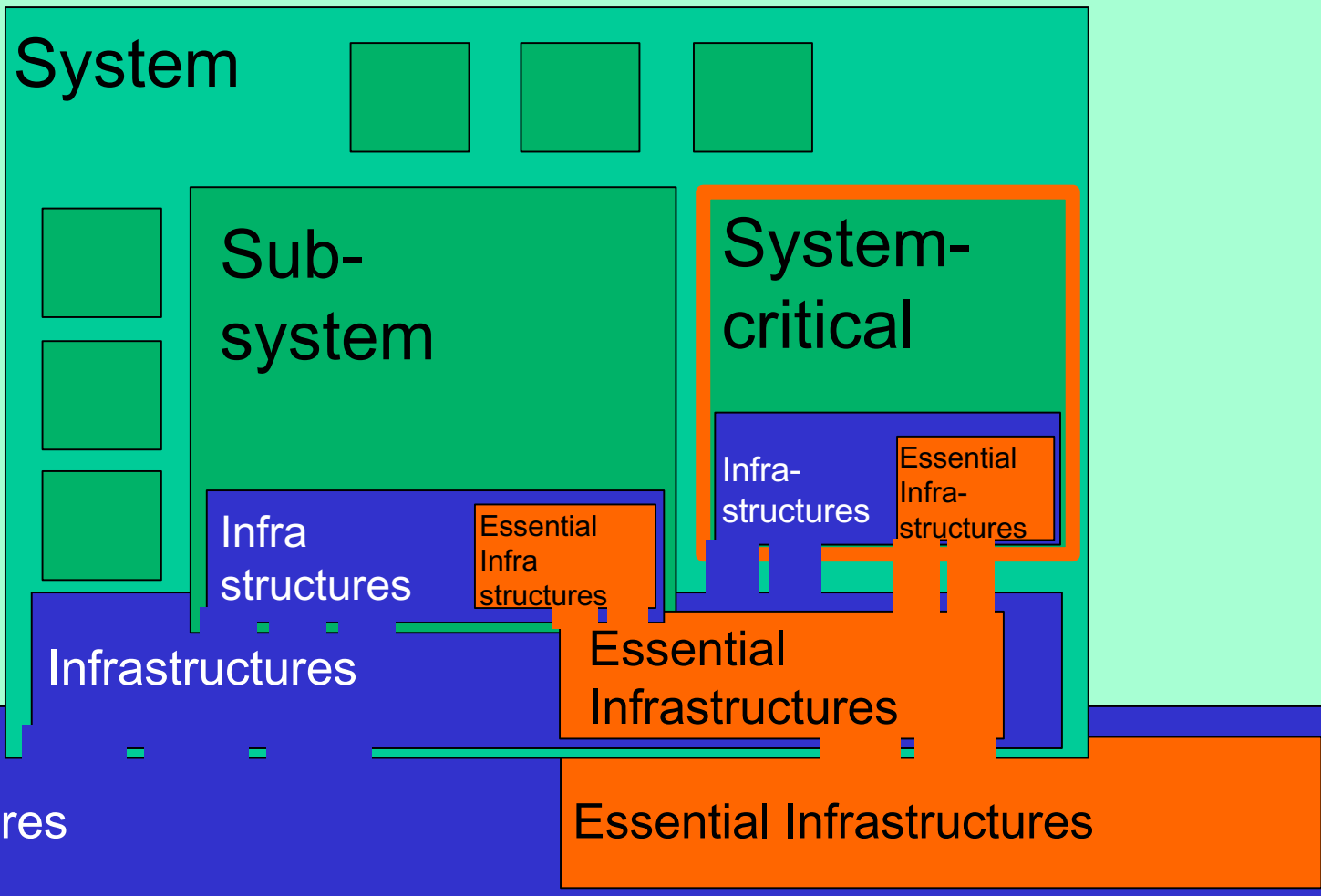
## Technology

Hardware, Wires, Buildings

# System of Systems



Super-ordinate-system



# Critical Infrastructures



transport  
system



emergency  
services



banking  
finance  
insurance

power  
supply



health  
services

government  
public administration

telecommunication

# Stovepipe-Organisation



## Critical Infrastructures

P  
O  
W  
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Y

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**Advantage:  
Established Structures**

# The Whole Thing „Pizza Sette Stagioni“



banking  
finance  
insurance

emergency  
services

transport  
system

**Advantage:  
Established Structures  
maintained**



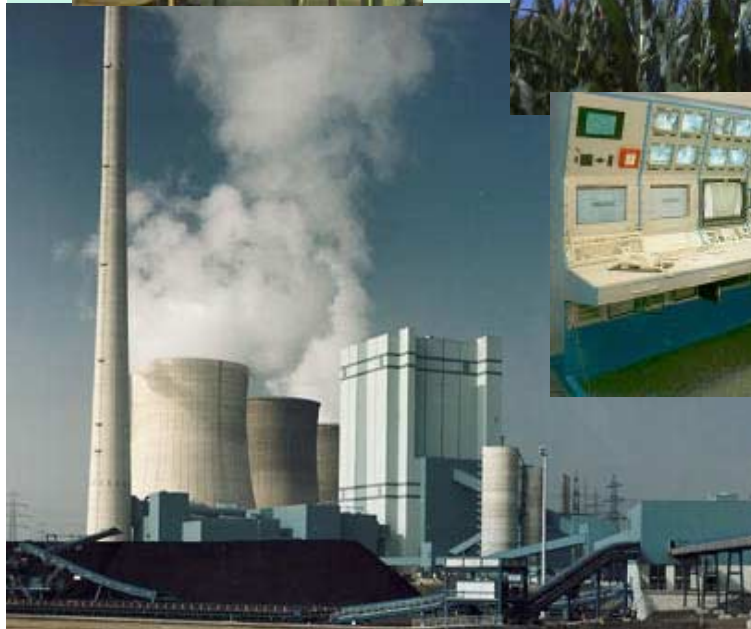
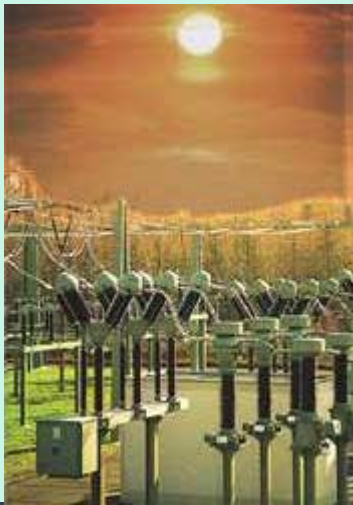
government  
public  
administration

health  
services

power supply

telecommunication

# Power Supply



control room  
network control  
powerplant control  
transformerstation  
control

# Telecommunication



control room  
network control  
switching nodes  
mainframes

# Telecommunication Internet







- Router
- DNS-Server
- Online-services
- Provider
- Server
- Web-Server

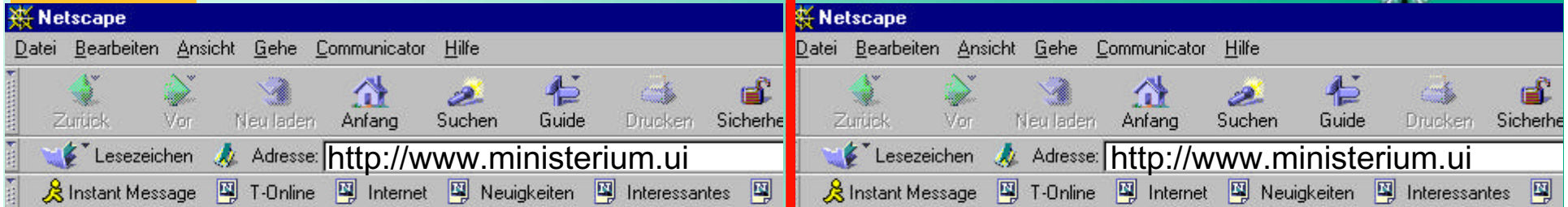


# Defacing



<p><b>Netscape</b> Datei Bearbeiten Ansicht Gehe Communicator Hilfe</p> <p>Zurück Vor Neu laden Anfang Suchen Guide Drucken Sicherhe</p> <p>Lesezeichen Adresse: <a href="http://www.ministerium.ui">http://www.ministerium.ui</a></p> <p>Instant Message T-Online Internet Neuigkeiten Interessantes</p> <p><a href="#">Peace for all!</a> </p> <h2><u>MOSMONIA TODAY</u></h2> <h3>We secure peace</h3> <p>Peaceful celebrating children should be the ultimate goal of our peaceloving policy!</p> 	<p><b>Netscape</b> Datei Bearbeiten Ansicht Gehe Communicator Hilfe</p> <p>Zurück Vor Neu laden Anfang Suchen Guide Drucken Sicherhe</p> <p>Lesezeichen Adresse: <a href="http://www.ministerium.ui">http://www.ministerium.ui</a></p> <p>Instant Message T-Online Internet Neuigkeiten Interessantes</p> <p><a href="#">Peace for all! Ho Ho Ho</a> </p> <h2><u>MOSMONIA TODAY</u></h2> <h3>We secure war</h3> <p>Peaceful celebrating children should be the target of our policy!</p> 
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# Smart Defacing



## Information Operations

at the operational level of war.

245. IO are **not** targeted against civil infrastructures, that might cause unnecessary suffering among the civilian population (e.g. waterplants, chemical industry) at operational or tactical level

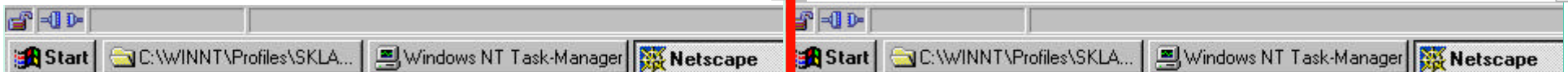
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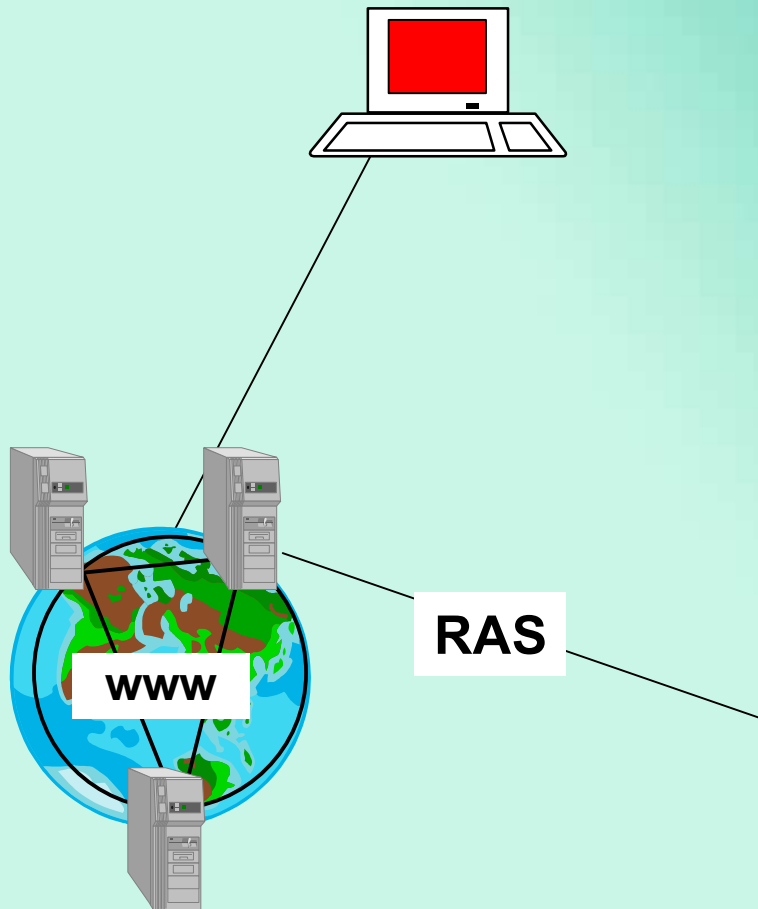
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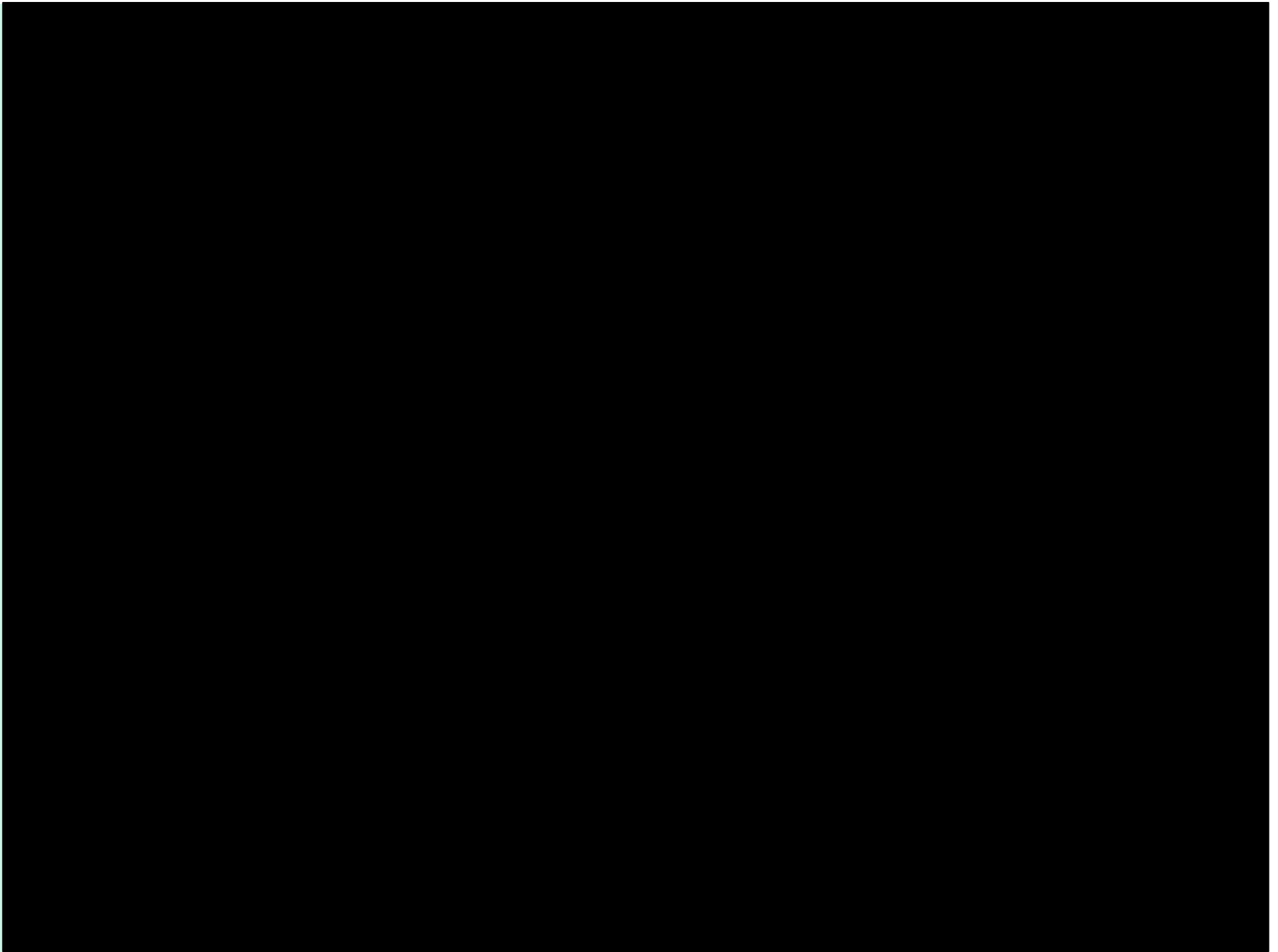
# Software Update



# Remote Services



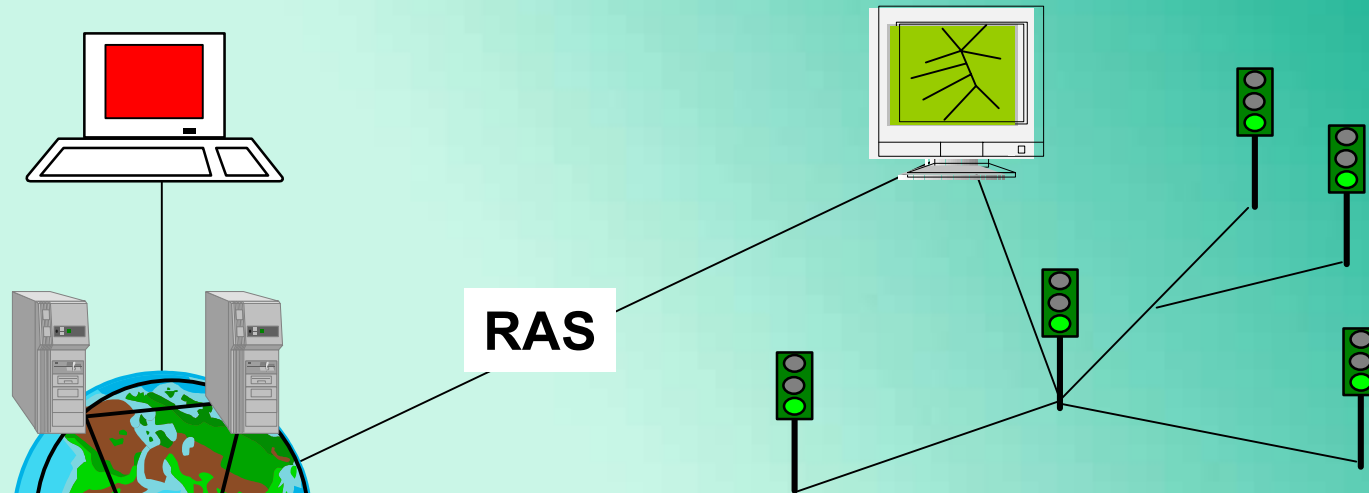
ir Sicherheit  
in der Informationstechnik



# Traffic Snarl



## Traffic-Control-Center



# Ultimate Target



And never forget the ultimate target:  
the **human mind!**



# Project Group



- Ministry of the Interior
- German Information Security Agency BSI
- Federal Bureau of Criminal Investigation BKA
- Intelligence Service BND

# Sonderstab



- German Information Security Agency BSI
- high ranking managers of all critical infrastructures
- representatives of concerned ministries
- federal agencies

~ 30 people

~ 5,4 Mio €

# Commission



- Director:  
Well known and established person with political or scientific background
- influence in politics and science on highest level
- similar composition of members but larger numbers as Sonderstab
- implementation and adaptation of the German national plan

# Timetable 2002 / 2003



## BMI Project KRITIS

- Preperation of Cabinet Decision
- Preperation „Sonderstab“
- First Concept National Plan

## Commission

- Influence in politics and economy
- Implementation of National Plan

2/02

4/03

7/02

11/02

## Sonderstab

- Members:  
Critical Infra Managers  
civil services
- National Plan

## Sonderstab

- Implementation Plan

# BSI Studies



- **Interdependencies** between critical infrastructure sectors
- **Questionnaire** to identify critical systems
- **Guideline** for IT-Sec-Management
- **Juridical** situation in Germany
- **Management game** for planned reporting and analysis center
- **International** approaches to CIP
- **Specific Studies for Critical Infrastructure Sectors**

# AKSIS



# Acupuncture - Warfare





Thank you  
for your attention !

# Speaker



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