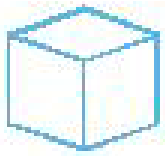
New Approach to eGovernment Security

Radovan Semančík



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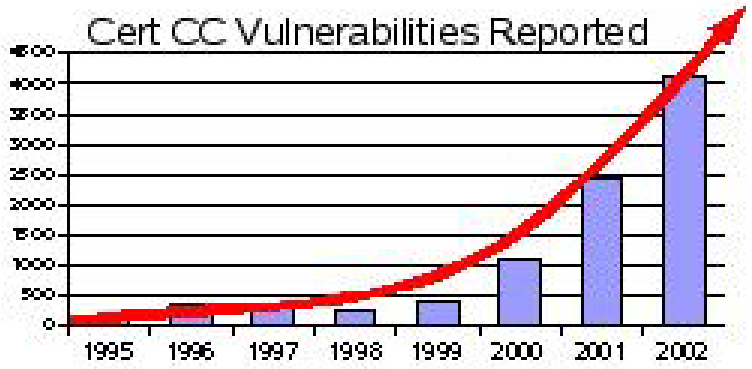
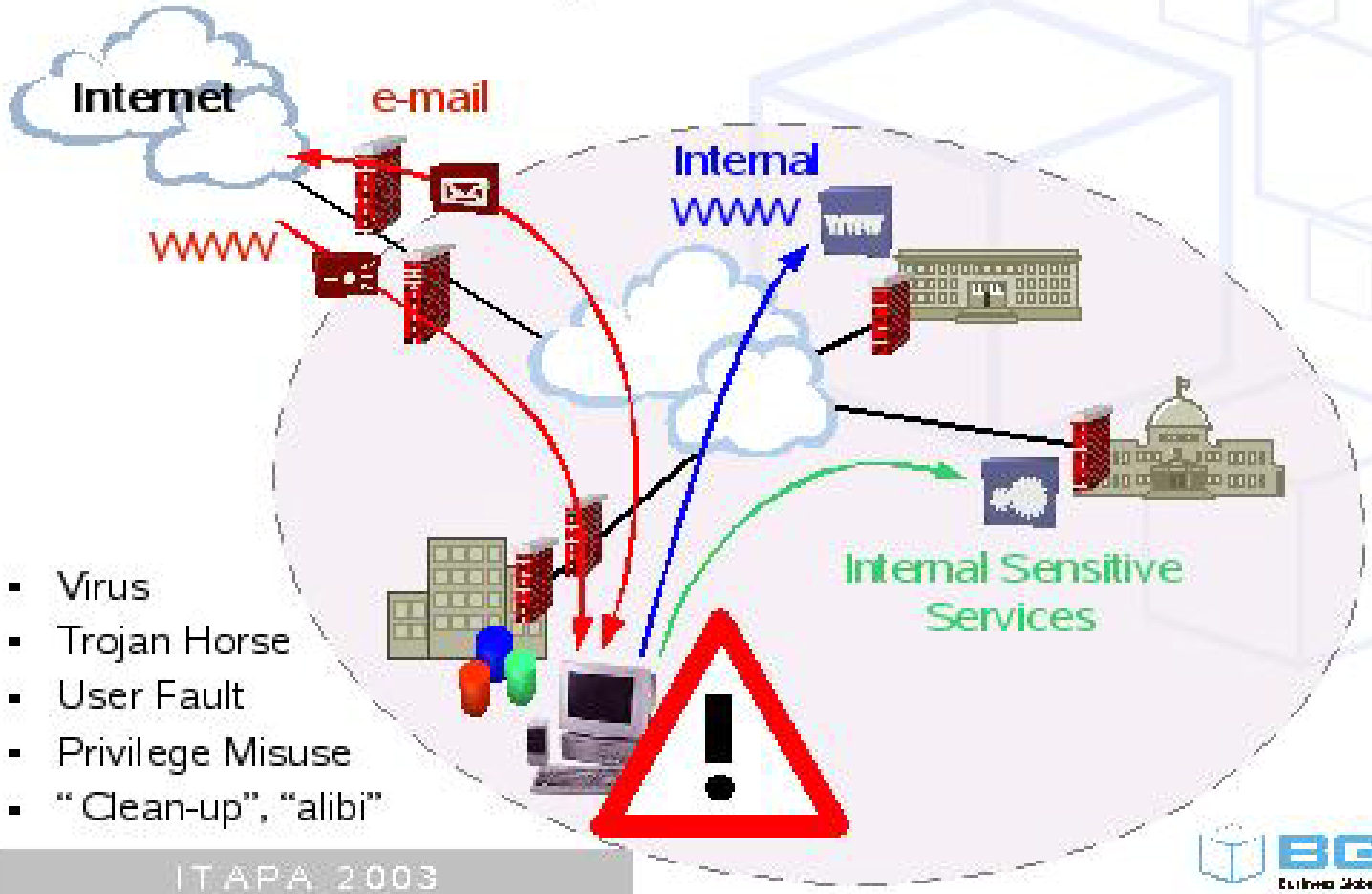
(In)security

- K.Brunnstein: About Inherent Insecurity of Contemporary ICT Systems, ...
- Computerworld: Windows Update Patch Process Faulty, Expert Says
- B. Schneier: "This shows that the notion of patching doesn't work"

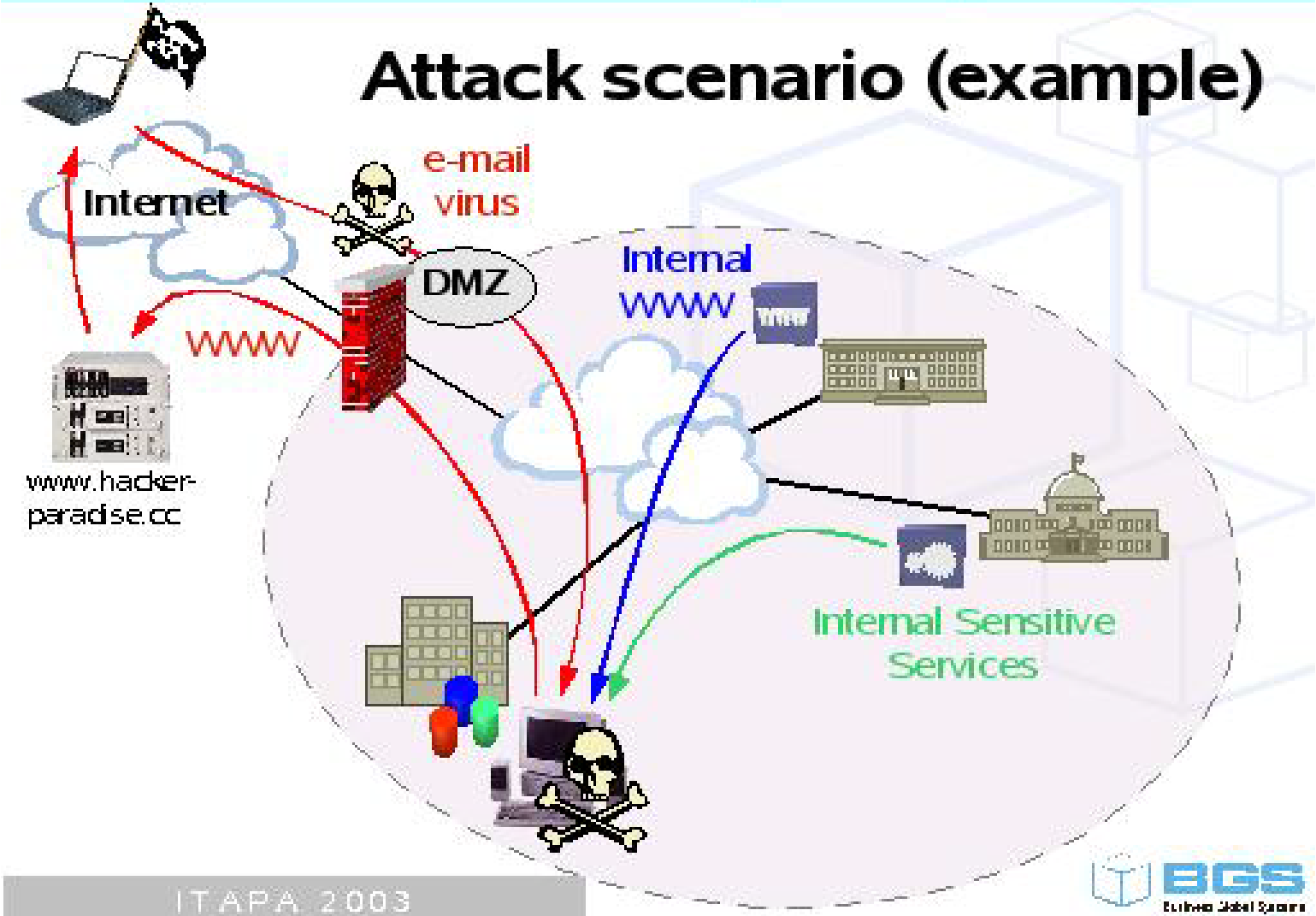


Example: User PCs



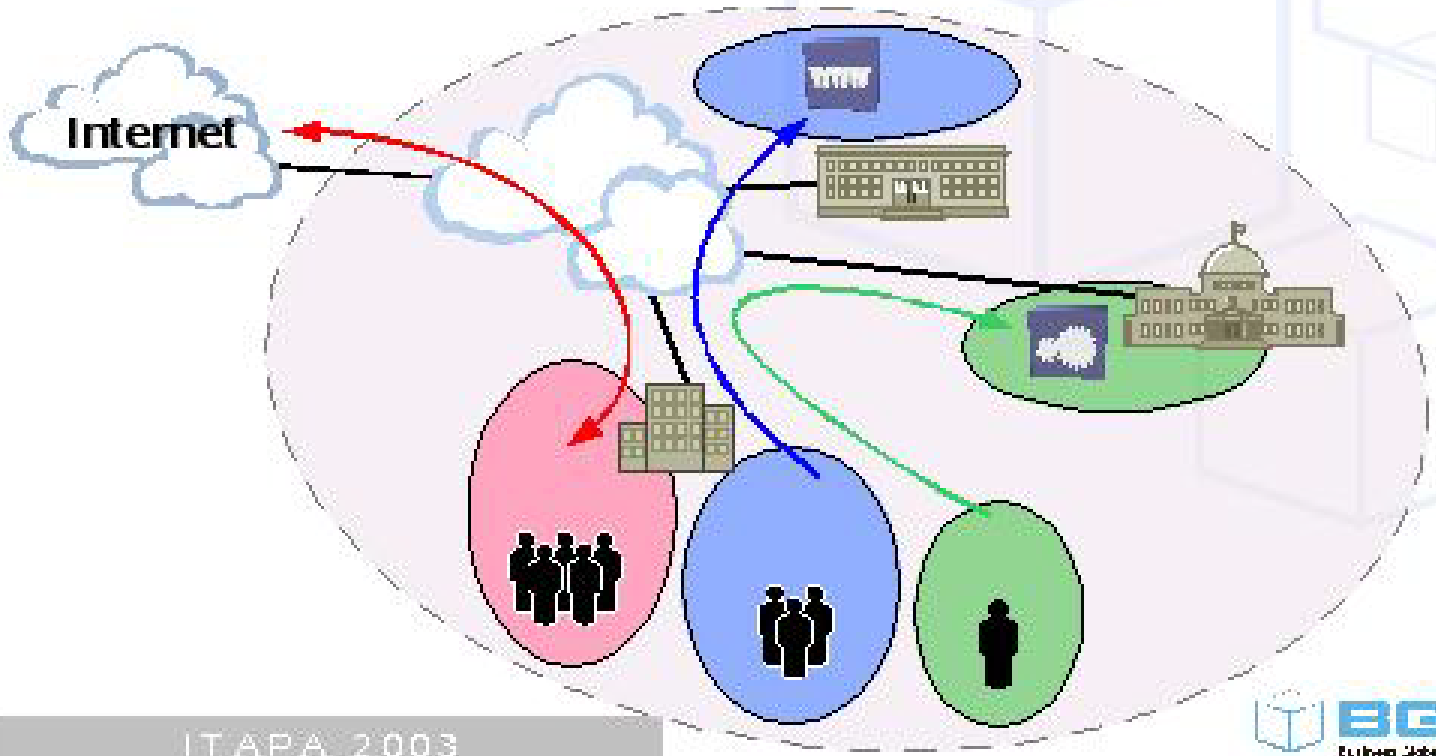
- Virus
- Trojan Horse
- User Fault
- Privilege Misuse
- "Clean-up", "alibi"

Attack scenario (example)

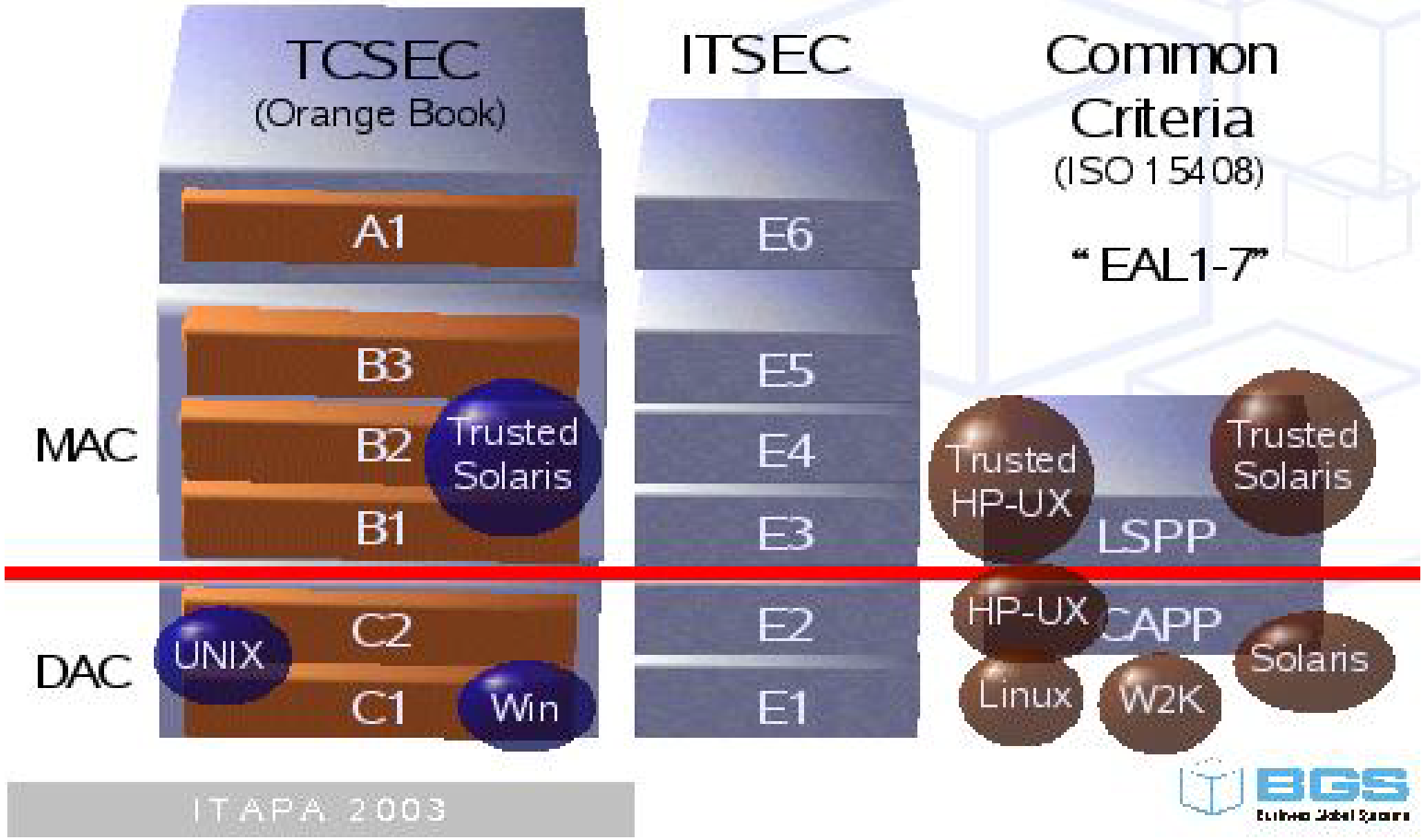


“ Divide and Conquer” Solution

Total network and user separation

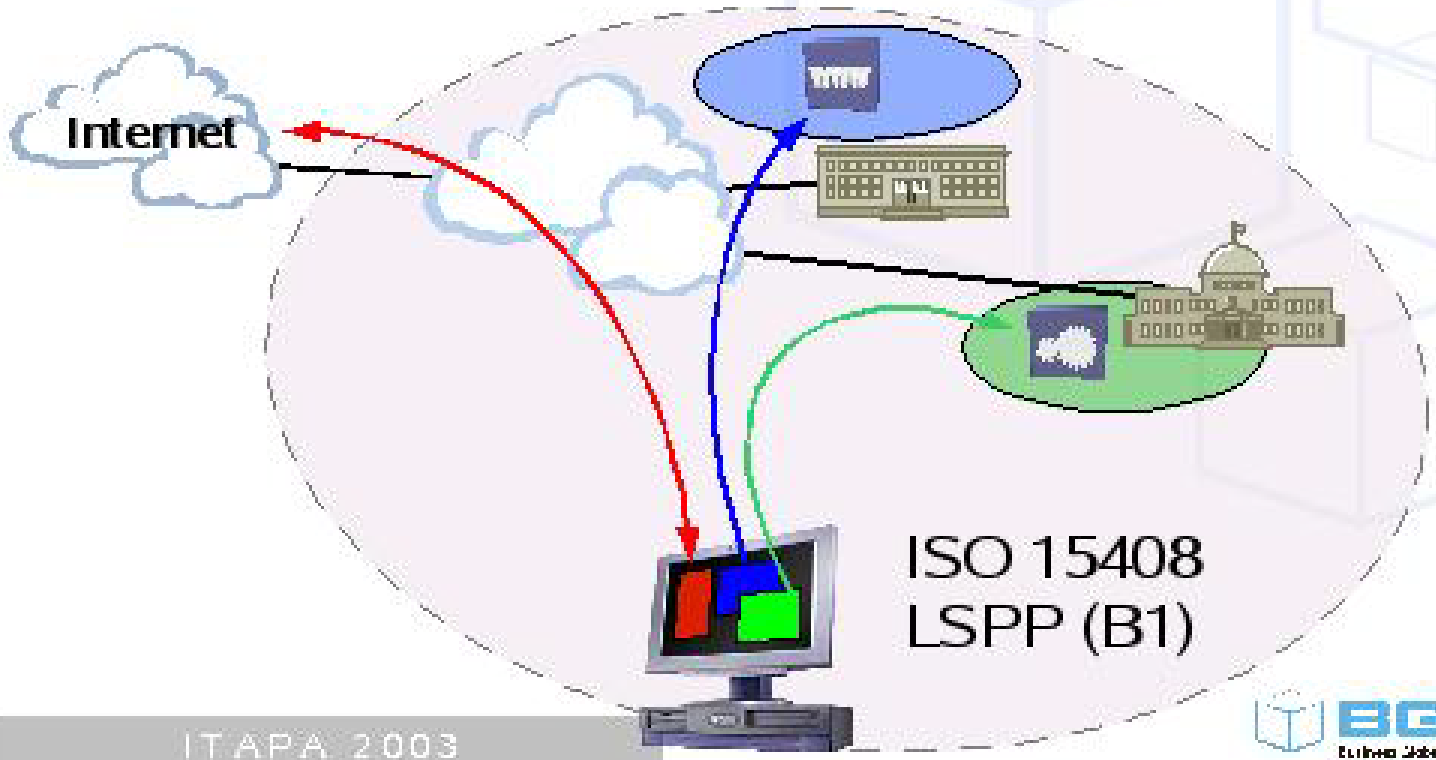


Common Criteria (ISO 15408)

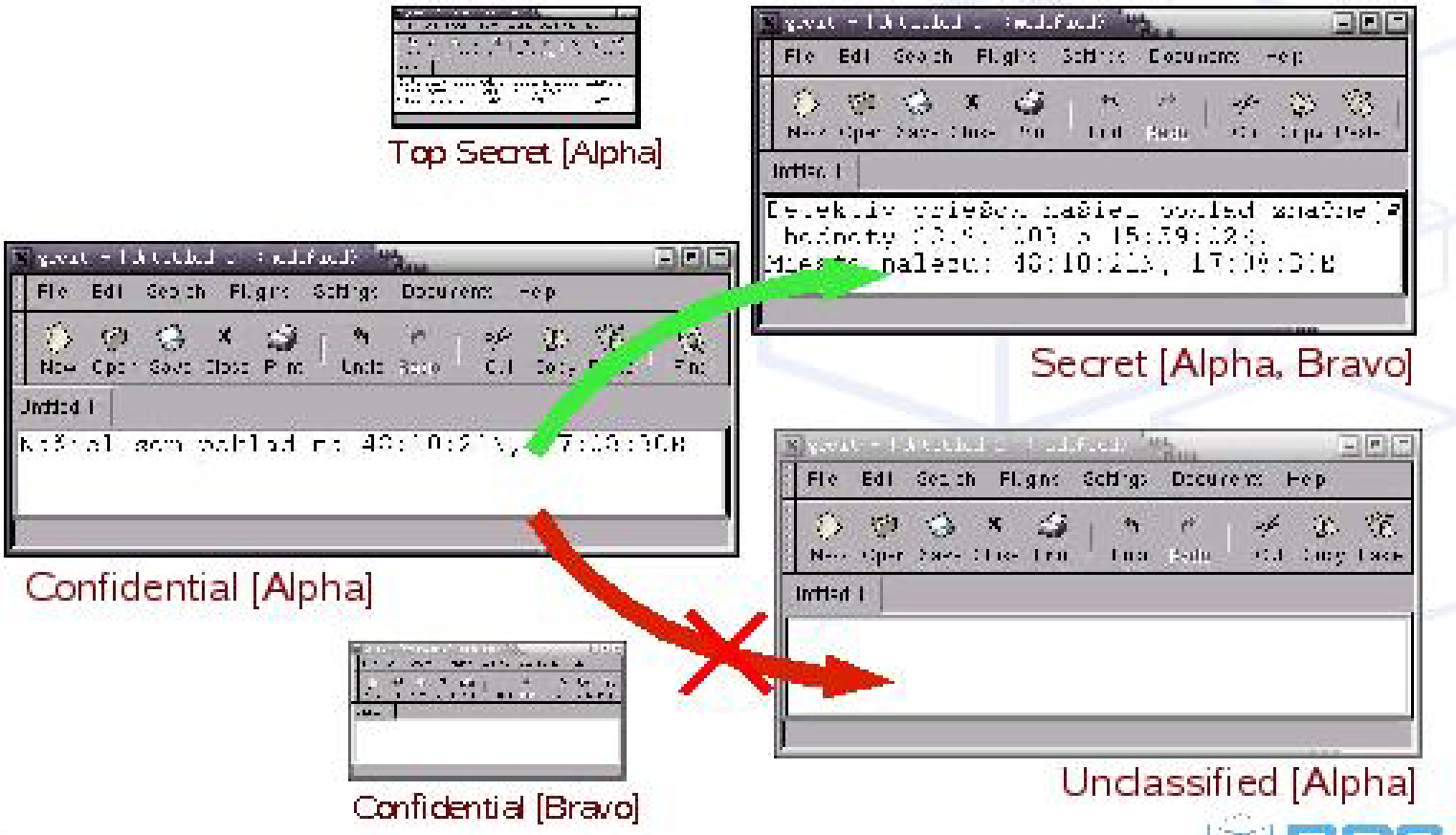


"MLS" Solution

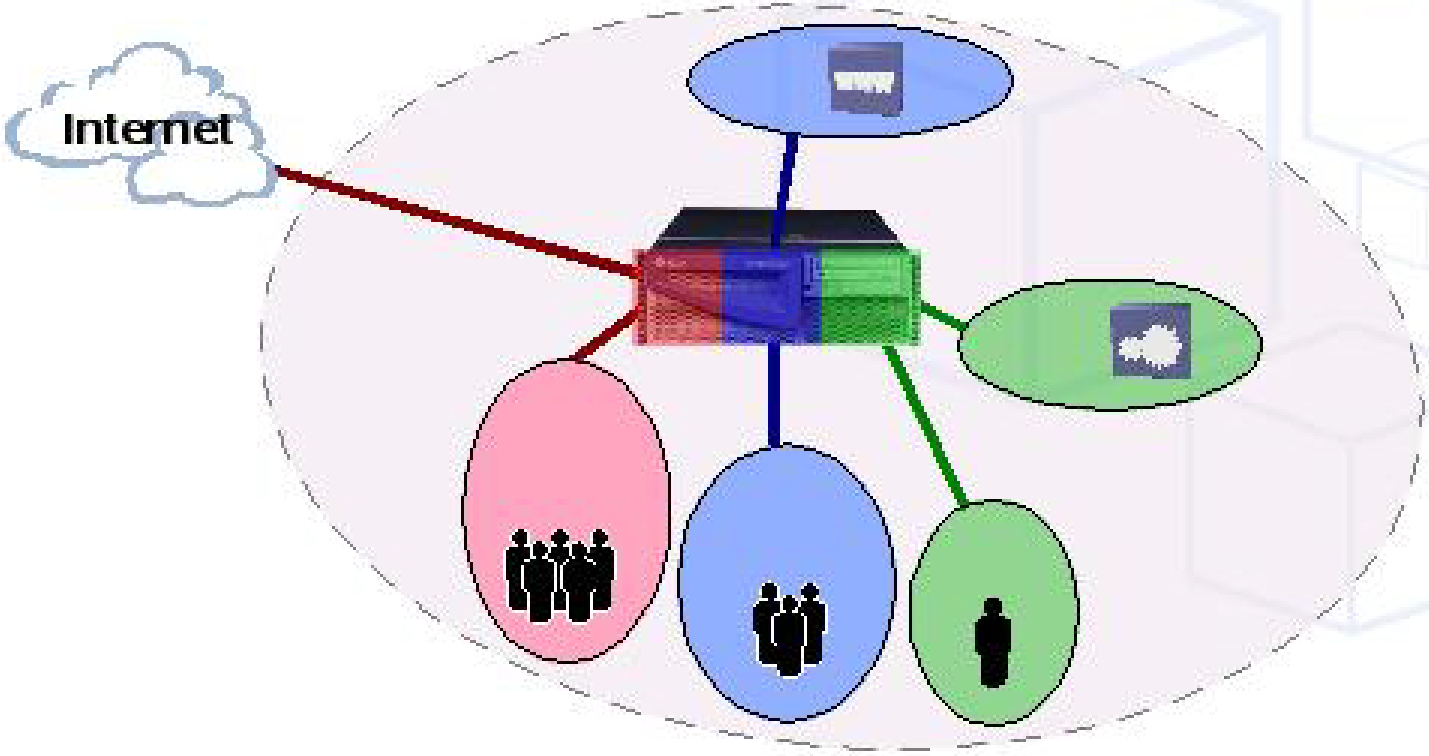
Multi-Level Secure Operating Systems



Multi Level Security: GUI



Multi Level Security: Network



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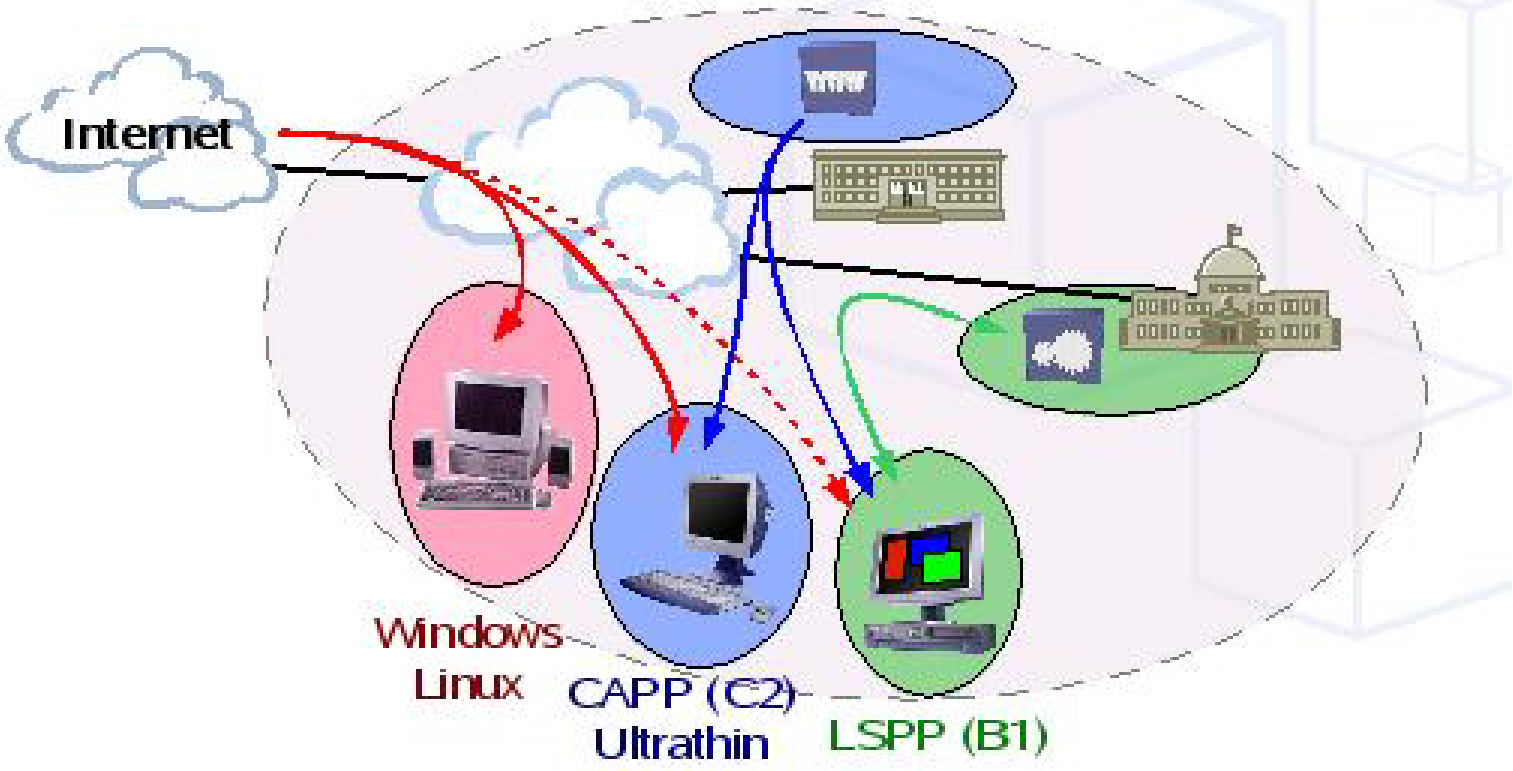
Trusted Solaris

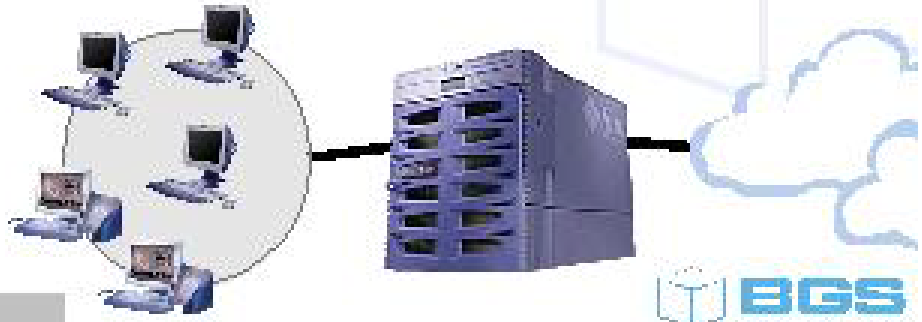
- ISO 15408 (CC) Certification, LSPP/EAL4 level
- Multi Level Security at the OS Level
- Information Flow Control model (Bell-LaPadula)
- Security Levels
  - Restricted, Confidential, Secret, Top Secret
- Compartments
  - OPS, INTELI, ENG, ... Alpha, Bravo, Charlie, ...
- Secure Desktop Environment
  - Copy&Paste, Trusted Path, ...

“ Ultrathin” Hybrid Solution



Ultrathin Clients

- Client: display only, no process execution
- Hot desking, mobility
- Client keeps no data, no hard drive
- No need to manually upgrade clients
- Centralized management
- Security: no viruses, controlled software



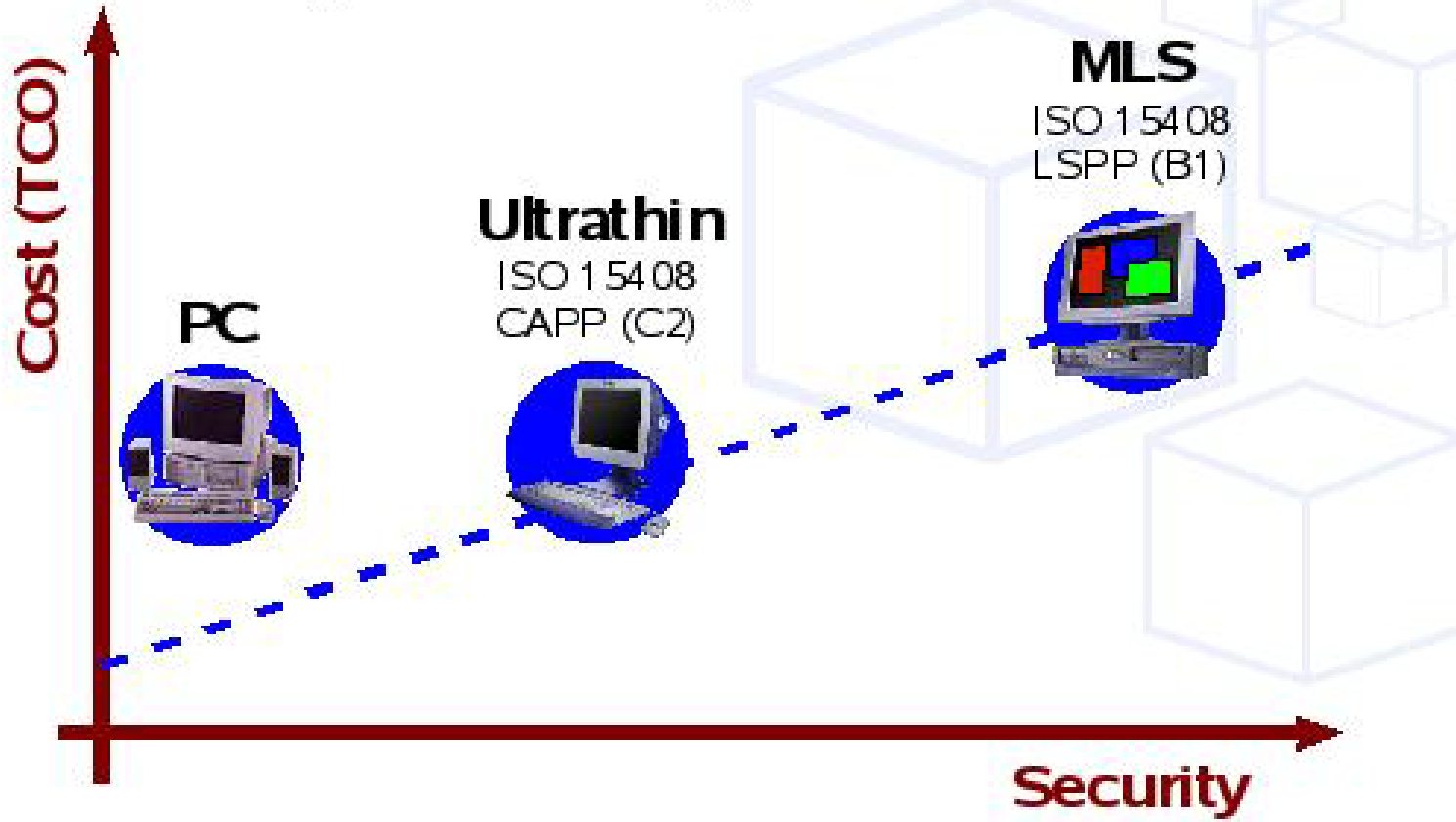
Sun Ray Family

Sun Ray 100

Sun Ray 1

Sun Ray 150

Rough Security Assessment



Conclusion

- Common Users
  - Public Information
  - Ordinary PC + Windows/Linux

- " Power" Users
  - Protected Information
  - Ultrathin Client + Secure CAPP OS (e.g. Sun Ray)

- Special Users
  - Sensitive/Confidential Information
  - "Trusted" LSPP OS (e.g. Trusted Solaris)

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Questions

Thank you

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