

# Talk

Impact of changing Technology on Security and Protection  
considerations

2/1/21 MITRE Corp. 7pm

I haven't been attending the earlier lectures, so  
has no idea what you have already been told. <sup>+ workshop</sup>

To the extent that it is repeat. First, you stated  
a reason that my ~~topic~~ function is ~~absolutely~~  
out ~~very~~ ~~forward~~

If it is contradictory earlier views, assume I am  
here to provide perspective.

General topic:

history: reinforcement

future: perspective

Some background.

Childhood experiences that have  
wounded my view of the world

Got interested in protection in 1967 on 1968



discovered (from ~~research~~) an  
important ~~new~~ parameter (C.P. 1968)  
that allowed reading on arbitrary distributions.



wrote program to ~~find~~ <sup>look up</sup> ~~parameters~~, presented  
to director.



System depended greatly on <sup>(computer)</sup> a ~~user-supplied~~  
parameter, which it didn't adequately check.



Lesson, after finding several more examples of  
System programmers, even when <sup>indoctrinated</sup> told without  
protection is important, <sup>automatically</sup> don't see the  
protection implications of their design  
decisions.

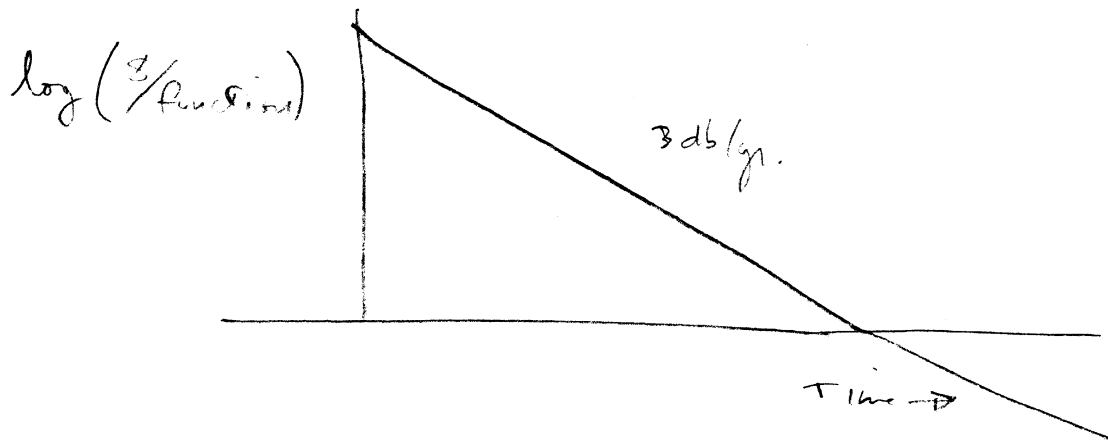
Input and lesson →

2<sup>nd</sup> lesson, from discussing that overlap exists on 2000+ clients do  
anything? There is no reason to believe that the } especially if  
implementation matches the spec. } it "works"  
right"

3<sup>rd</sup> lesson And from a lecture note found in 68645, entitled by F's ~~the~~ <sup>the</sup> ~~as~~ <sup>as</sup> ~~file~~ <sup>file</sup> fix:  
field update updates.

Field's: Multics couldn't handle information flows cause in distributed systems

Perspective: Impact of changing Technology on System Structures.



Impact on security / protection is via  
 Convergence on system structure

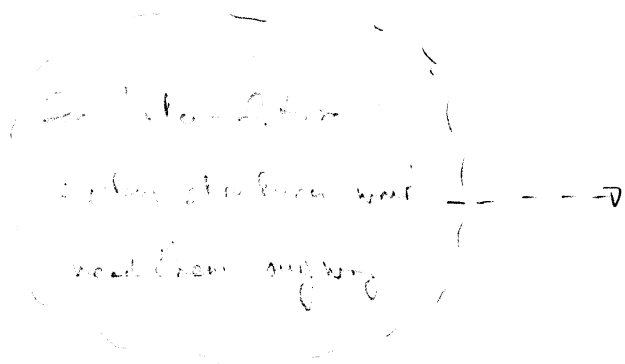
I. Relative cost of software is growing

Commodity hardware in software is getting

old software trapped by arch

and operating system

← RFA devices  
 figure this out.



There will be no more large, general purpose

Operating System like MVS, Multics,

Exec-8, etc.

The big mainframes are going to be hard to

secure because <sup>source</sup> software is so distributed

Don't plan on it

More security, however, will lead to this organization's success.

Lower price  
↓  
↑ additional  
specification  
features.

II. Future system organization will be a network of specialized self-sustaining computers. Two kinds of specialization exist: security.

self-sustaining  
computer  
with  
policy

A. 4 Programs, but one level of security, distributed every M.S.

B. Multi-level, but not GP

→ high data center

- gateway

- packet switch

- VMS (no user code)

- Mail drop program

- File server

- Printer server

responsible  
and  
other  
clergy  
group

distributed  
computer

Security provided by

- 1) Verification Audit / time team / local experience of ML server
- 2) Network security plan that requires GP isolation.

Open / unsecured wires

Unhelpful Policy re interface / organization / DBMS Security

↓

No way to verify compliance, since don't know what we are complying with.