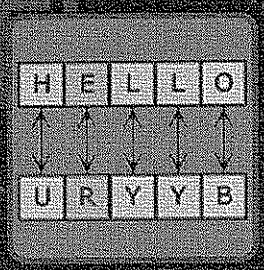
EXHIBIT I
Volume 8



You have earned a trophy.

Obfuscation useless

- Sony's idea: "No one can see our code!"
- ... unless the PPE is compromised
- Decrypting all code possible from GameOS
  - security coprocessor pointless!
- But we want keys!

	Xbox	Wii	360	PS3
On-die bootROM	✓	✓	✓	✓
On-die key storage		✓	✓	
Public-key crypto	✓	✓	✓	✓
Chain of trust	✓		✓	✓
Per-console keys		✓	✓	✓
Signed executables	✓		✓	✓
Security coprocessor		✓		✓
Full media encryption and signing		✓		
Encrypted storage		✓		✓
Self-signed storage		✓		
Memory encryption/hashing			✓	
Hypervisor			✓	✓
User/kernelmode				✓
Anti-downgrade eFUSEs			✓	

INEFFECTIVE

BYPASSED

USELESS

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Hypervisor			✓	✓
User/kernelmode				✓
Anti-downgrade eFUSEs			✓	

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Chain of Trust

Name	Processor / Mode	updateable	revocable*	usage
bootldr	SPE	✖	✖	boot lv0
lv0	PPE HV	✔	✖	boot lv1
metldr	SPE	✖	✖	run *ldr
lv1ldr	SPE	✔	✖	decrypt lv1
lv1	PPE HV	✔	✖	hypervisor
isoldr	SPE	✔	✖	decrypt modules
sc_iso	SPE	✔	✔	
...				
lv2ldr	SPE	✔	✔	decrypt lv2
lv2	PPE SV	✔	✔	kernel
appldr	SPE	✔	✔	decrypt games
some game	PPE PS	✔	✔	:-)

Chain of Trust

Name	Processor / Mode	updateable	revocable*	usage
bootldr	SPE	✘	✘	boot lv0
lv0	PPE HV	✔	✘	boot lv1
metldr	SPE	✘	✘	run *ldr
lv1ldr	SPE	✔	✘	decrypt lv1
lv1	PPE HV	✔	✘	hypervisor
isoldr	SPE	✔	✘	decrypt modules
sc_iso	SPE	✔	✔	
...				
lv2ldr	SPE	✔	✘	decrypt lv2
lv2	PPE SV	✔	✔	kernel
appldr	SPE	✔	✔	decrypt games
some game	PPE PS	✔	✔	:-)

*as per Sony's specification

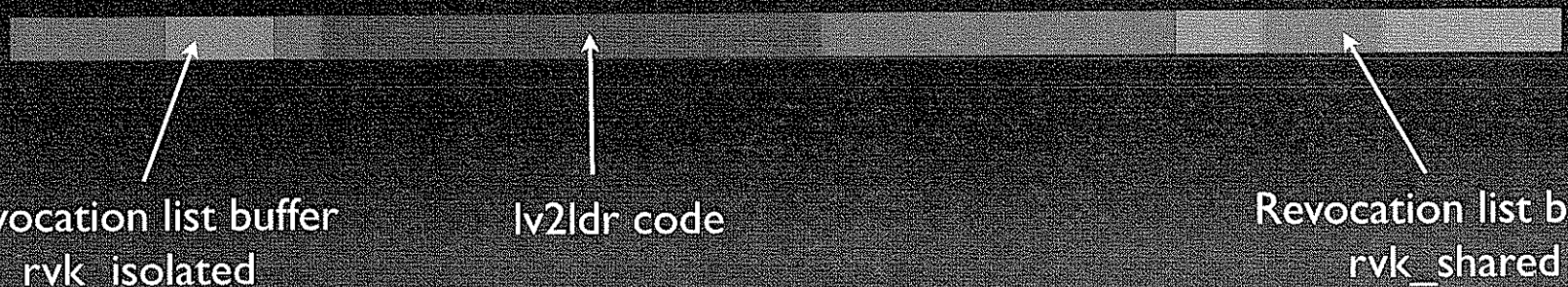
Breaking loaders

Revocation list buffer
rvk_isolated

lv2ldr code

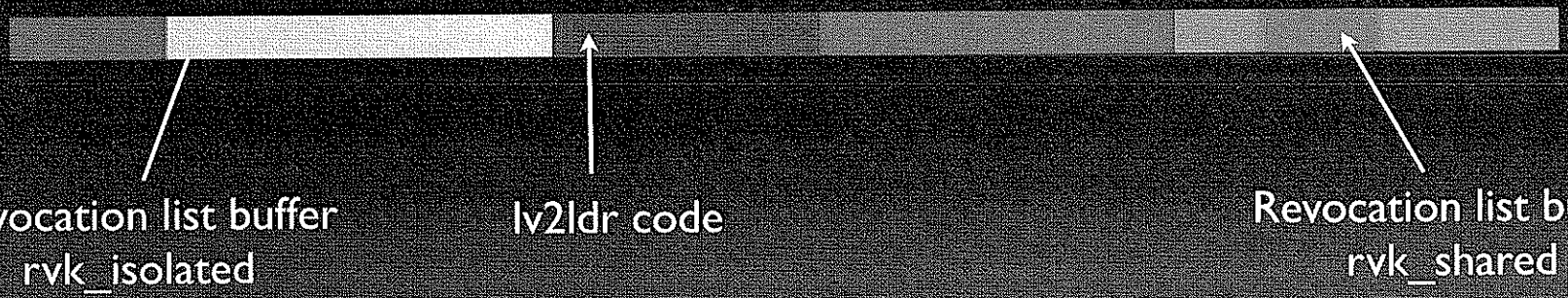
Revocation list buffer
rvk_shared

Breaking loaders



memcpy(rvk_isolated, rvk_shared, *((int *)(rvk_shared + 0x1c)))

Breaking loaders



memcpy(rvk_isolated, rvk_shared, *((int *)(rvk_shared + 0x1c)))

Br

```
6692d179032205
82592e77a204a8
1b91b9b73c68f9
b3b9accda43860
2901308bbd685c
672f11cedf36c5
07ebd2779e3e71
1d6b501ae0f003
```

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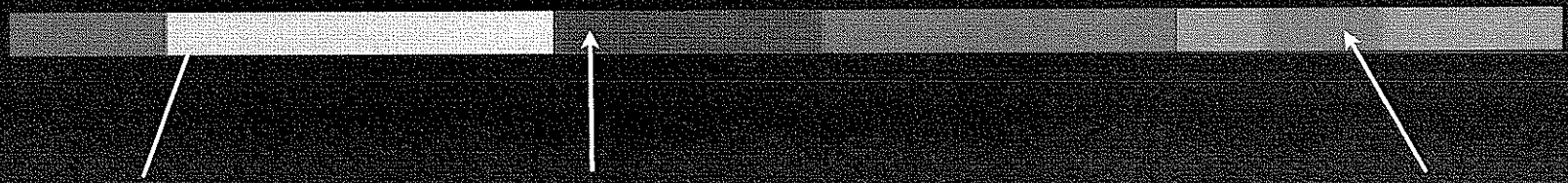
Obtained AES keys



Revocation list buffer
rvk_isolated

lv2ldr code

Revocation list buffer
rvk_shared

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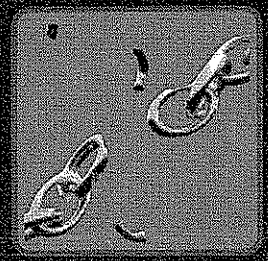
- „Only“ a bug in isolated loaders
- Chain of Trust already broken for all sold consoles now.



You have earned a trophy.
Chain of Fail

- „Only“ a bug in isolated loaders
- Chain of Trust already broken for all sold consoles now.
- This is Fail™. But it‘s not Epic™ yet...

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