

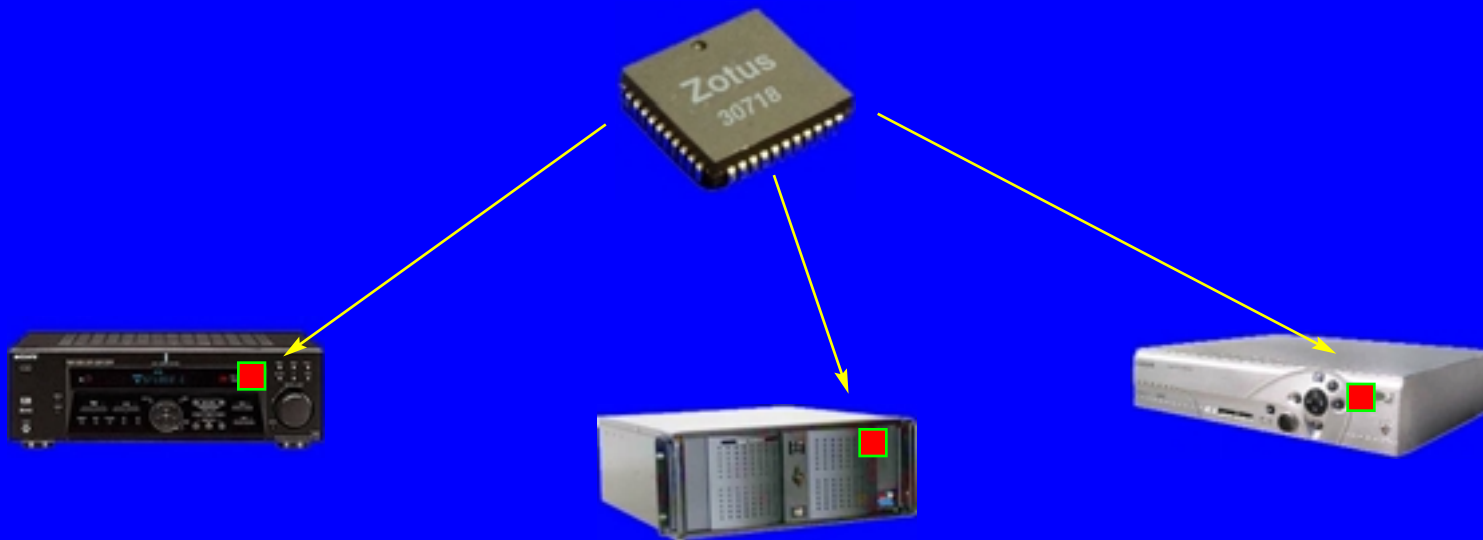
# ZOTUS

content, unplugged

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# What is Zotus Technology?

- **Conditional access method completely encapsulated in a small low-cost (<1Mgate) all-digital ASIC core ('Z core'). Standalone chip or more likely integrated with D/A converter inside playback device. Unscrambled digital never leaves silicon.**
- **Security not contingent on environment, software, operating systems or communication protocols. Completely transparent and works with existing infrastructure.**
- **Strong identity for untethered players.**



# Collapse complexity to the manageable level - control just one simple piece

- No general purpose computers, operating systems or secure pipes with associated costs and interests.
- All control is in a small core (few \$ added cost to player). The Z core provides strong identity and delivers all conditional access functions.



# Shift legal focus from millions individuals to few dozen multi-\$B facilities

- Zotus technology works within the traditional legal framework, without requiring legal upgrades as technology advances. It shifts legal effort focus from millions of individuals to few dozen semiconductor fabs for enforcing IP laws.
- Only semiconductor fabrication needs monitoring. Player manufacturing does not.



# Breaking protection means building hardware per user

- Requires \$10K+ investment per user to foil ... or 500 high-end PCs. This is a sample point on the cost/barrier curve.
- Reviewed and inspected. Uses proven crypto components decades old. No home-made component algorithms. "... *claim appears to be true ...*" - cryptography professor from a major US university.
- Always harder than analog recapture.

Few \$ worth of silicon



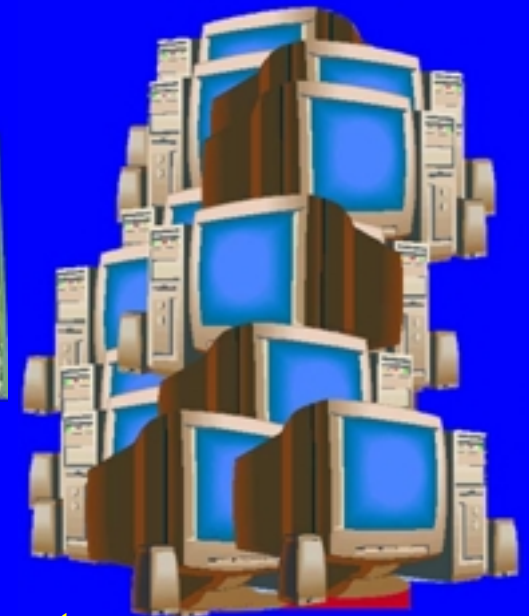
Legitimate

\$10K+ FPGA board



VS.

500+ PCs



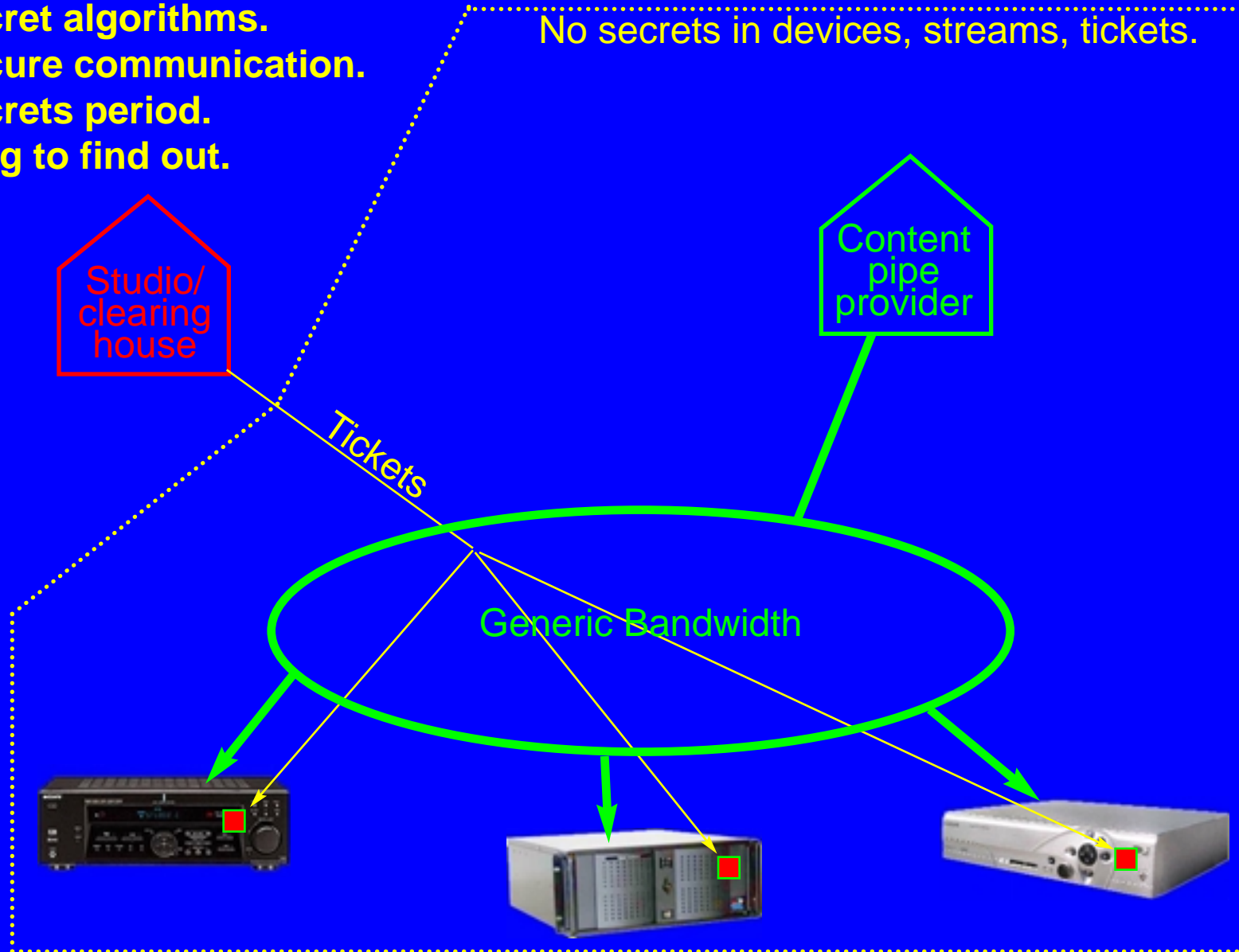
Illegitimate

# How it works ?

- Each playback device has Z core with unique identity. It need not be secret.
- Each content is prepared (scrambled also with Z core) the same for everyone, in advance or in real time. The way content is prepared need not be secret.
- A 'ticket' must be issued to each player for a specific content, in advance or in real time. The ticket need not be secret.
- With ticket, the Z core becomes materialization of the particular right/license.
- Copying the right implies copying silicon's functionality - building hardware. Reverse engineering, peeling the chip etc. yields nothing.

# No secrets in userland!

- No secret keys.
- No secret algorithms.
- No secure communication.
- No secrets period.
- Nothing to find out.



**Studio controls the last micron in the chain!**

# Buying is comfortable. Consumption is private.

- Consumer can have the same comfort as when buying and operating DVD: low-cost simple players and 'tickets' are forever. All deliveries can go through the wire.
- The player doesn't need to talk back. No real-time service or backchannel req'd for playback.
- Digital assets become portable due to versatile licensing capabilities.
- Only authorized playbacks are possible.



# What Zotus means to the movie industry?

- **Allows mapping to the existing business processes, empowering traditional players in the chain - studios, distributors, exhibitors. No requisite software or bandwidth provider interests or disproportionate intermediation by technology companies.**
- **Provides flexible and auditable rev-share platform.**
- **1-to-1 relationship with consumers, direct ownership channel between content producer and consumer. A studio can know about each purchase in real time.**
- **Preempts the development of culture of “ripping and trading” not just by raising barriers to piracy, but also by enhancing the experience of legitimate content by using latest advances in networking and storage technologies.**
- **Commoditizes technology, not content.**

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