
The Ownership Trainwreck

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Entrained to collide



Train 1—Lower transaction costs

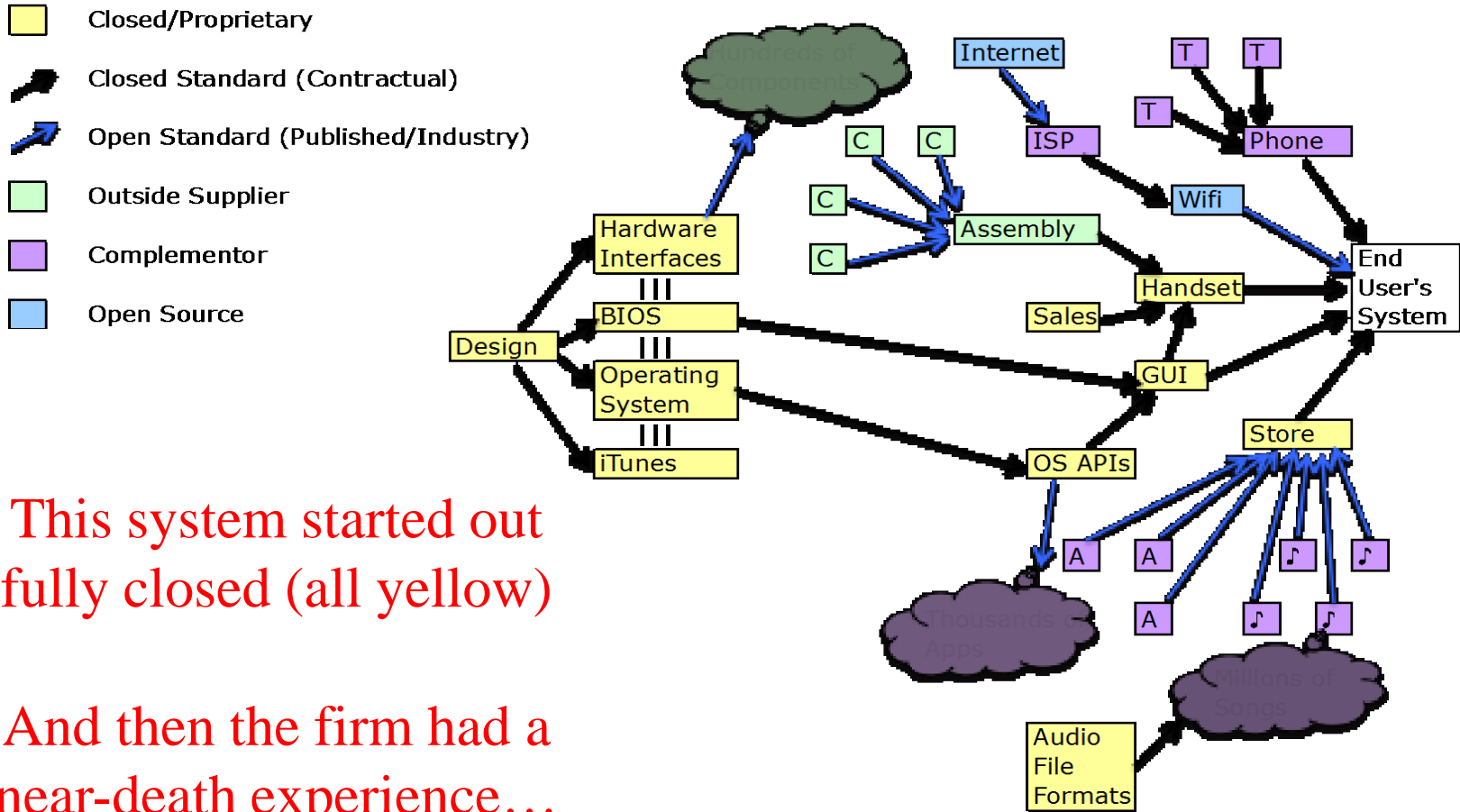
- A transaction is “a mutually agreed-upon transfer with compensatory payment” (Baldwin, “Where do transactions come from,” 2008)
- To transact, you need to:
 - Define X
 - Count/measure X
 - **Compensate for X**
- With modern information technology, our ability to *define* and *count* has gone up by orders of magnitude
 - Pollution, cap-and-trade... markets for carbon offsets
- Compensation requires valuation... and that’s where we run into trouble
 - Andy asked, “What is a standard worth?”
 - And gave a paradoxical “through the looking glass” answer

Train 2—Business ecosystems

- What is this?
- A loose network—of suppliers, distributors or servicers...—that affect or are affected by the [focal] company
- A network of suppliers and complementors that contribute to the end-user's experience
- A network of *users, communities and firms* that create, produce, and use products and services that *work together* (interoperate) as a system
- Made possible by modularity of the underlying products and processes
 - Modularity requires standards (= design rules for compability)

An Ecosystem

Key

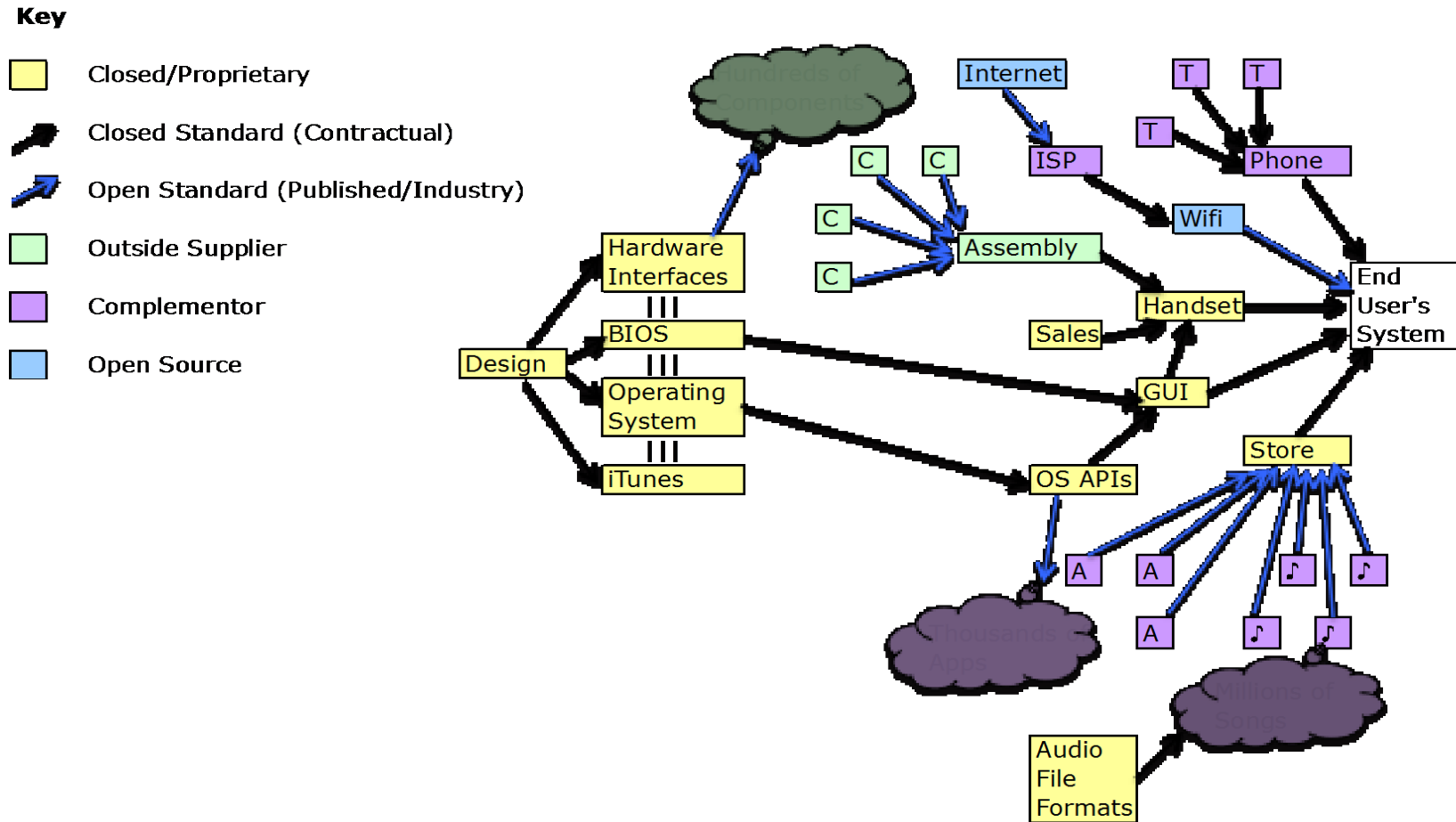


This system started out fully closed (all yellow)

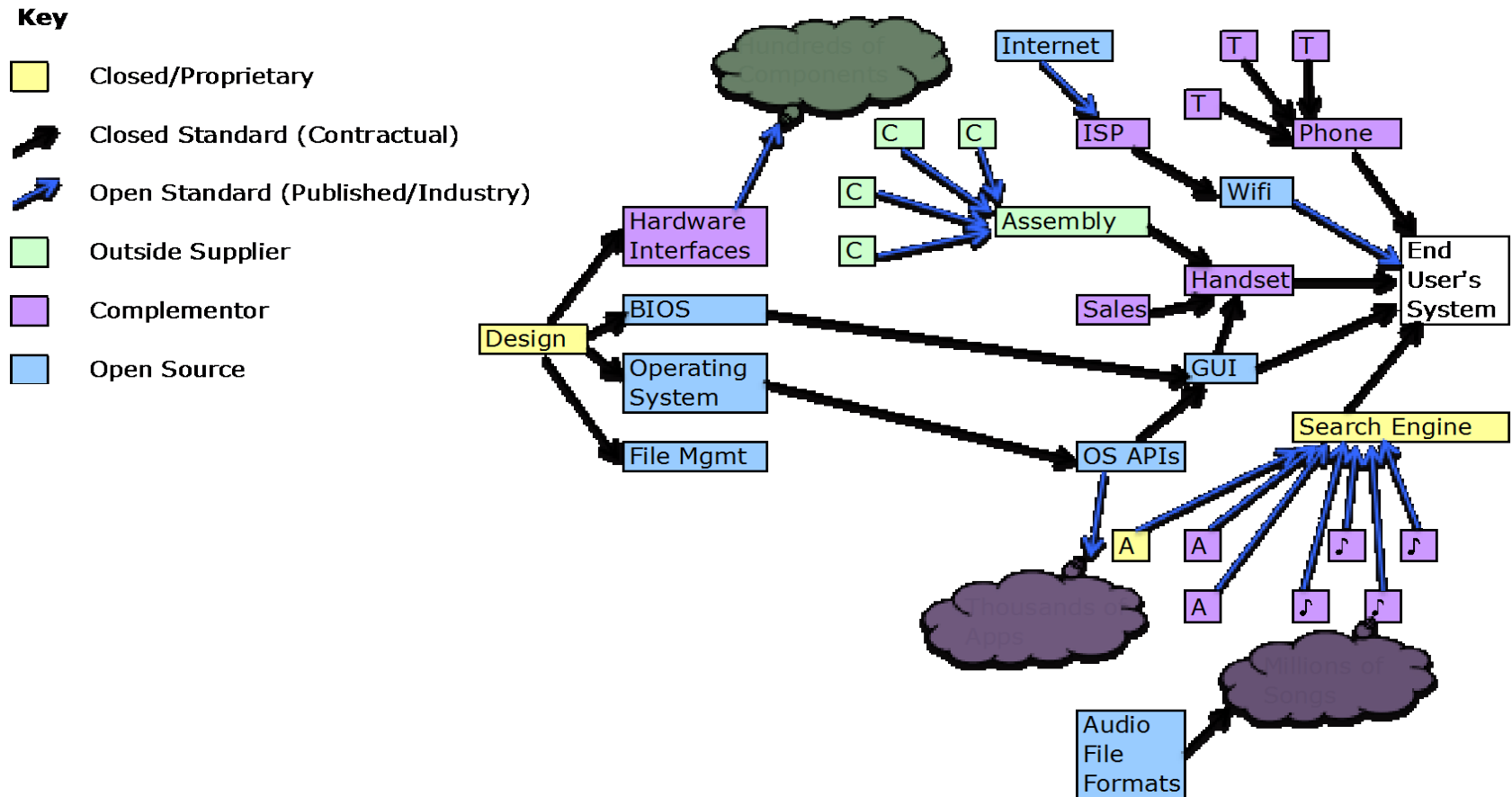
And then the firm had a near-death experience...

And when the founder returned to
save the company, he opened up
the system...

To create the iPhone Ecosystem



An even more open system: Google Android



Ecosystems are a good thing

- The “system” and the “users” can access global talent never before available
 - Geographically **dispersed**
 - Lots of **different motivations**
 - **One-off**
 - **Cheap**
 - Really knowledgeable ***solvers*** and ***users***

But the value created is “complementary”

- “A” is only valuable in the presence of “B”
 - Radios, radio broadcasts
 - Stereos, recorded music
- These were *simple complementarities* compared to the iPhone and Android systems
- Strict complements do not have unique, separate values
 - Markets will NOT arrive at the “right” answer
 - ... Because there isn’t one!!!
 - Shapley value permutations

Why is value-complementarity a looming trainwreck?

Because ecosystems are made up of
complementary enterprises

Vying for advantageous positions

Organizations mirror the structure of the knowledge they use

< <<<

>>> >

Integral "Knowledge"

"Composition of matter"

Chemicals

Drugs

"A unified expression"

Movies

Books

Characters

IPR system works

Organizations mirror the structure of the knowledge they use

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Integrated Knowledge

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Autos

Airplanes

Industrial processes

Semiconductor Mfr.

IPR system works

**Systems integrators exercise
discipline**

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Modular Knowledge

Computers

Software

Telecomm

Semiconductor Design

IPR system works

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IPR train wreck

You can separate the
activities, but you can't
separate the value!

Organizations mirror the structure of the knowledge they use

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IPR train wreck

Modularity \neq Market Valuation

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IPR train wreck

Dream on!

Thus technology has brought us

...

The social dilemma of the anti-commons

Can we solve it?

To avoid the train wreck...



That is coming our way



Thank you!