



Open Systems, Closed Systems, and Killer Apps

Submitted by our Contributing Editor Bob Hettinga as his choice of best article of month found on Internet. Note that the JIBC Editorial Board reserves an unrestricted right to shorten any original document submitted for publication.

Robert Hettinga rah@shipwright.com

44 Farquhar Street, Boston, MA 02131 USA (617) 958-3971

"If they could 'just pass a few more laws', we would all be criminals."

--Vinnie Moscaritolo

Home Page: <http://thumper.vmeng.com/pub/rah/>

by **Duncan Frissell**

frissell@panix.com

Duncan Frissell is a lawyer and writer in New York, and one of the first members of the cypherpunk list, where the following article first appeared..

At the Digital Commerce Society of Boston lunch last Tuesday, I had an epiphany. I finally got the answer to the great question of our age: Why do open systems beat closed systems? One of the peculiar things about today is how successful open systems have become. Closed systems like Communism, X.25, and IBM have fallen to markets, TCP/IP, and the personal computer respectively. And this has happened all over the world in institutions with incredibly varied political and social systems.

We were discussing the Chinese government's proposal to maintain a monopoly ISP in China that would censor the connections of its peons and as usual I pointed out the many ways that such restrictions could be overcome (Don't tell T. May about the draft defining a new MIME type "TCP/IP packet". I know he hates MIME). Which led to the response "Sure a few techies will be able to overcome the restrictions but the masses won't and the government won't mind a little leakage as long as they maintain overall control." To which I retorted "ordinary people will overcome the technical barriers if they have sufficient motivation." Which brought up the subject of what are the "killer apps" for the Net. What will motivate people enough to choose open communication even though it's hard and sometimes even dangerous.

Which led to:

The killer app of open systems is not any particular application it is the openness, the freedom itself.

The denizens of the DDR had to overcome the Stasi, barbed wire, mines, walls, tank traps, etc to adopt an open systems architecture. Learning to use a few TCP/IP tricks (or building them into applications and using those applications) is much easier than breaching the Berlin Wall.

Open systems whether MarketEarth or TCP/IP let you trade/communicate at will with anyone else. This leads to more trade/communication which leads to more wealth (or non-monetary satisfaction). Since people are able to do more things that they want to do (unblocked by hierarchies) it is only natural that they are more satisfied with the results (and there are more results to be satisfied with). After all, a hierarchical system can only produce outcomes directed by the hierarchy (in the best case). But the top of the hierarchy is much smaller than the bottom of the hierarchy so it can only think of, deal with, and authorize a small number of activities. So the system can only do a few things.

I should have known this before since it is implicit in my favorite article from the Economist "THE INCREDIBLE SHRINKING COMPANY" 15 December 1990 <http://http://www.ios.com/~lroth/CLIPS/Bussiz.html>

"Part of the answer [as to why firms are shrinking] may lie in the fact that, loth though they are to admit it, top people's capacity to deal with information is limited. There is no technical reason why a Wall Street investment house should not line the walls of the managing director's office with screens, showing second-by-second price movements for thousands of securities. But there is not much a single person could do with all that information. So the best way to take advantage of increases in the amount of information coming into the firm is to push decision-making down the corporate hierarchy, to where the flow is manageable by a single mind: on Wall Street, a trader." [And if you don't, the market will.]

Hierarchies my be able to produce a lot of a limited range of products: megatons of sandy concrete and dead bodies like Communism, or globe-spanning private networks like X.25, or millions of pounds of Armonk Iron like IBM, but they can't produce as broad or satisfactory or an output or in the end as *large* an output as open systems can.

The Net or the Market can produce an incredible range of products that no *one* would ever think of (save for the *one* who did). And since people are more likely to find things that they want in the whole range of "products," open systems encourage more activity and hence more "wealth."

Additionally, the absence of the need to ask permission from Gosplan, or the Sysadmin, or some marketing committee obviously makes it possible to do more faster. You not only save the begging and committee decision time, you can do things that others might think bad or peculiar. No need to convince strangers about the value of your idea prior to trying it out. You get to just do it.

Now none of these differences between open systems and hierarchies meant much when the bulk of the world's population had to spend all of its time growing food to survive, but now...

Choice exists and choices will be made. Hierarchies will try and resist the spread of open systems but they will not be successful and their failures will come faster and be much more obvious as time goes on. If one organization resists "successfully," people and money will drain away from it to other organizations where they are allowed a fuller range of choice. The success of open systems will help the spread of those systems into the surviving bastions of hierarchy.

That's why I'm the Pangloss of Cypherpunks "everything's for the best in the best of all possible worlds."

I know that this is all Kindergarten stuff but sometimes simple things are hard to see.

People today are offered a choice between two ways of doing things:

- 1) You get to do what you want and (by the way) have a vast wealth of "things" to own/use; or
- 2) You have to do what other people tell you and (unfortunately) make do with less of everything including choice, money, and "toys."

I wonder what choice people will make?

DCF