Ciclos de desenvolvimento na indústria do software

II SOLISC

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Evolução da informática

Década	Inovação	Paradigma: Como pode ser...	Modelo D&L Dominante
1940	Arquiteturas	O computador programável?	Artesanal: HW <-> SW
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1960	Linguagens	A viabilidade útil?	Monolítico: HW + SW + SLA
1970	Algoritmos	A utilidade eficiente?	
1980	Redes	A eficiência produtiva?	Proprietário: SW = EULA
1990	Internet	A produtividade confiável?	
2000	Cibercultura	A confiança no virtual?	?

Evolução do software embusteiro

Ano	Tipo	Conhecido por	Característica
1961	Jogo	Darwin, Code war	Controle de memória
1971	Verme	Creeper, Reaper	Arpanet BBS, 1o. Antivirus
1982	Verme	Elk Cloner	Floppy, 1a. epidemia
1986	Verm/Vir	Brain	1o. PC-DOS
1988	Verme	Morris	Internet, Unix
1991	Virus	Tequila	1o. polimórfico (falsos -/+)
1994	Hoax	Good Times	Falso alarme
1995	Vírus	Concept	1o. Macro de aplicativo
1998	Troiano	Back Oriffice	Exploit administrativo
1999	Vírus	Melissa	1o. Vbasic (email, web)
2000	Verme	DDS	DOS com smurfing
2001	Vírus	Anna Kournikova	1o. Script (virus kit)
2002	Vírus	Klez	Vírus de Antivirus
2003	Hackers	Johansen, Sklyarov	Absolvidos c/ DMCA
2004	Vírus	MyDoom	Meta-stealth (SCO, MS, FOSS?)
2005	Troiano	Aries.sys – SONY	Rootkit via DRM CD de música

Softwares embusteiros

Tipo / Ação	Se Replica	Se Camufla	Ataca
Verme	X	Alguns	
Vírus	X	X	X
Troiano		X	X

Modos de Comunicação digital

Relativo à representação da informação
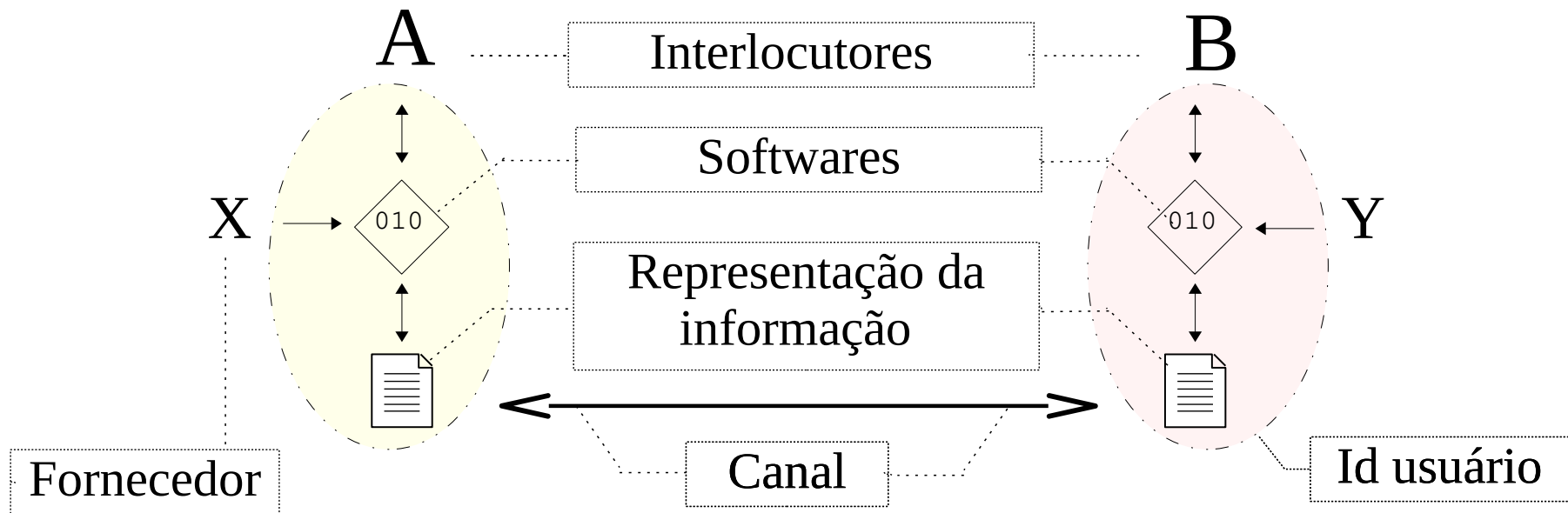
Padrões fechados : Fornecedores X, Y precisam se associar
(X, Y relacionados negocialmente - EULAs, DRM, etc)

Padrões abertos : Fornecedores X, Y podem competir
(X, Y relacionados semiologicamente - projetos e licenças FOSS)

Segurança na informática

Safety = Controle da proteção contra

efeitos da lei de Murphey

Security = Controle da proteção contra

a 1a. Hipótese Metafísica de Descartes:

E se nossa percepção estiver sendo

manipulada pelo demônio?

Segurança por design

3.1

revista.inpi.gov.br/INPI_UPLOAD/Revistas/PATENTES1797.pdf
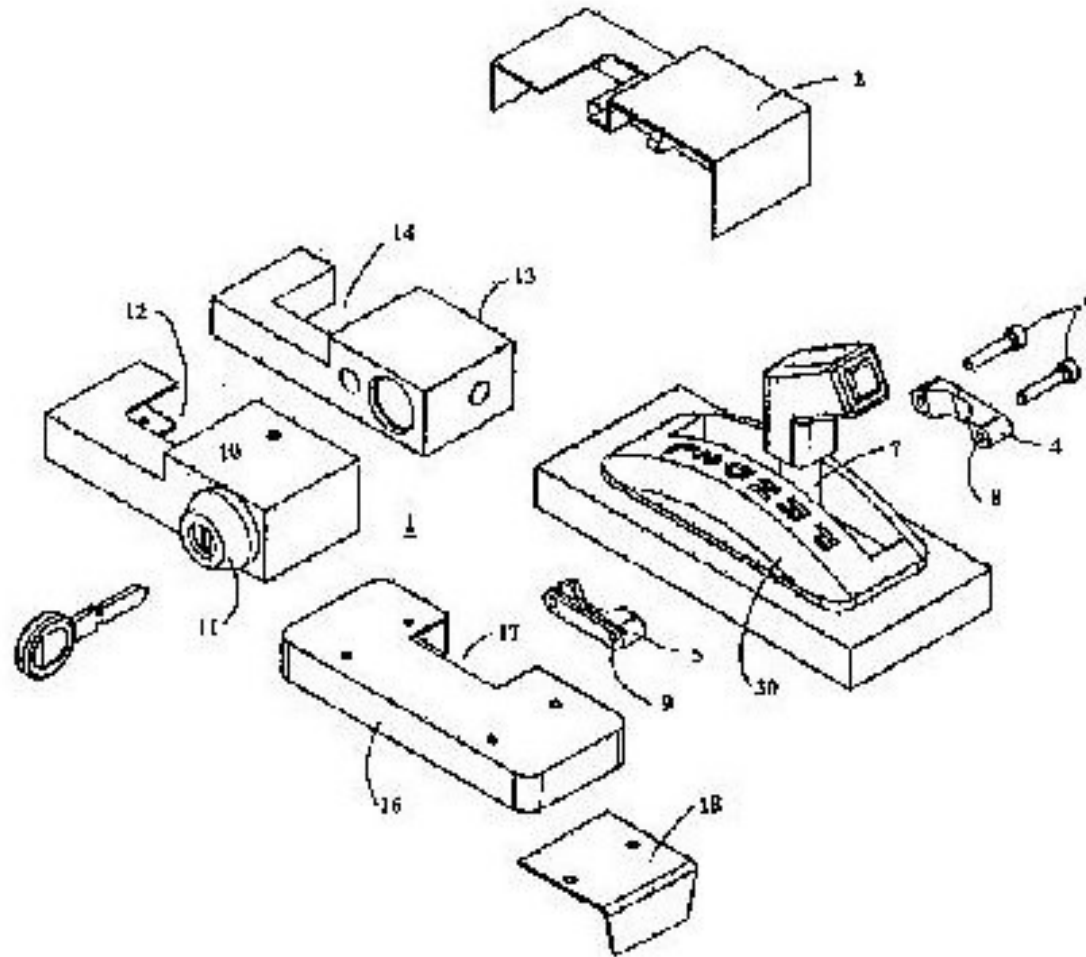
Segurança por obscurantismo

05/02 - *A senior MS executive* [V.P. Jim Allchlin]
told a federal court [juíza Coleen Kollar-Kotelly]
that sharing information [algumas API Windows]
could damage national security and even threaten
the U.S. war effort [no Afghanistão, etc...].
He later acknowledged that some Microsoft code
was so flawed it could not be safely disclosed.

www.eweek.com/article/0,3658,s=701&a=26875,00.asp

Riscos da monocultura

Como o monopolismo em TI põe usuários em risco

"Computer & Communications Industry Assoc. and the report's authors have arrived at their conclusions independently... The growing consensus within the computer security community and industry at large is striking, and had become obvious: a single, dominant operating system in the hands of nearly all end users is inherently dangerous."

Riscos da monocultura

The increased migration of that same OS into the server world increases the danger even more... Microsoft's efforts to design its software in evermore complex ways so as to illegally shut out efforts by others to interoperate or compete with their products has succeeded. The monopoly product we all now rely on is thus both used by nearly everyone and riddled with flaws."

Riscos da monocultura

24/09/03 - *"CyberInsecurity - The cost of monopoly"*

Dan Geer, Rebbeca Bace, Peter Guttman,
Perry Metzger, Charles Pfleeger,
John Quarterman, Bruce Schneier.

www.ccianet.org/papers/cyberinsecurity.pdf"

Segurança do negócio vs. do usuário

16/02/03 - Windows XP mostra em que direção vai a MS

"Windows XP connects with Microsoft's computers and expects to be allowed through the user's firewall in many new ways.
A (probably incomplete) list of ways WinXP tries to connect to Microsoft's computers, or expects to be allowed through the user's software firewall:

Segurança do negócio vs. do usuário

1. Application Layer Gateway Service
   (Requires server rights: This software can set up an arrangement where other computers control your computer)
2. Fax Service
3. File Signature Verification
4. Generic Host Process for Win32 Services
   (Requires server rights.)
5. Microsoft Direct Play Voice Test
6. Microsoft Help and Support Center
   (notifies MS of your search.)
7. Microsoft Help Center Hosting Server *(Wants server rights.)*
8. Microsoft Management Console
9. Microsoft Media Player *(Tells MS music and videos you see.)*

Segurança do negócio vs. do usuário

10. Microsoft Network Availability Test
11. Microsoft Volume Shadow Copy Service
12. Microsoft Windows Media Configuration Utility
    (Setup_wm.exe, sometimes runs when Media Player runs.)
13. MS DTC Console program
14. Run DLL as an app
    (No indication of which DLL or which function in the DLL.)
15. Services and Controller app
16. Time Service, *sets the time on your computer from MS.*
    (This can be changed to get the time from another server.)

Michael Jennings, Futurepower Computer Systems

metabolik.hacklabs.org/alephandria/txt/jennings_windowsXP_en.htm

Segurança do negócio vs. do usuário

24/09/05 - Bottom line: hard sell, soft buy

"...Hardware innovations are protected by patents. This is critical in the long run. Unlike software, which must rely on copyright and other laws to protect intellectual property, the makers of stuff enjoy international patents. These, too, are violated, but are much more secure than the vast grey area that protects software programs."

Segurança do negócio vs. do usuário

"...Sun, Oracle, and even Microsoft. Awash with cash and wishy-washy bureucracy that would have scandalized their founders 25 years ago, these are the giants that have the farthest to fall -- and will have the most difficult time dealing not only with emerging market piracy, but the more subtle assault of 'open source' software termites operating in the U.S. and Western Europe...

Segurança do negócio vs. do usuário

The industrial barriers to entry to making stuff are much higher too, meaning IP theft is normally carried on by one of a finite number of identifiable competitors -- as against the army of termites that can borrow, rewrite, reverse-engineer, and, in rare cases, just plain steal software code...."

Gregory Fossedal [Analista de Investimentos, UPI]
www.upi.com

Fim de um ciclo?

MS Windows Is Officially Broken

"Windows is broken and Microsoft has admitted it. In an unprecedented attempt to explain its Longhorn problems and how it abandoned its traditional way of working, the normally secretive software giant has given unparalleled access to The Wall Street Journal, even revealing how Vice President Jim Allchin broke the bad news to Bill Gates...."

Fim de um ciclo?

26/09/05 - "[Longhorn] *is so complex its writers will never be able to make it run properly. "The reason: Microsoft engineers were building it just as they had always built software."* Jim Allchlin, MS V.P.

schoolforge.org.uk/index.php/Microsoft_Windows_Officially_Broken

14/06/05 - MS contrata Daniel Robins, criador da distro Gentoo Linux: "para ajudar a entender open source"   www.linux.org/news/2005/06/14/0009.html

Fim de um ciclo?

18/11/04 - Steve Ballmer, Asian Govt. Leaders Forum : "*Someday, for all countries that are entering the WTO (World Trade Organization), somebody will come and look for money owing to the rights for that intellectual property* [Linux]."

www.groklaw.net/article.php?story=20041118073308709

08/07/05 - Parlamento União Europeia derruba a lei sobre patentes de software.

www.theregister.co.uk/2005/07/06/eu_bins_swpat

Estratégia monopolista

09/05 - Batalha por padrões da Internet

SenderID vs. IETF (tecnologia anti-spam)

news.com.com/2100-7355_3-5758365.html

09/05 - Batalha por padrões "de mercado"

MS XMLDoc vs. OASIS OpenDoc

(Massachussets, N.Zelândia, Finlândia, Cingapura,…)

www.dwheeler.com/essays/why-opendocument-won.html

Precificação do software - Lefkowitz Modelo Proprietário (valor base =100)

Derivativos: Scholes & Black,   **Juros** = 5% a.a.

Custos iniciais: Manutenção = 20 ou 25 a.a.

Volatilidade: Nasdaq 2004,   **Ciclo upgrade**: 4 anos

(base=100) Prazo	Volatilidade dos custos	Garantia de Manutenção a 20	Garantia de Upgrade a 50	Valor líquido da Licença
1 ano	0,30	2.85 (inicial = 20)	--	97,15
2 anos	0,30	7.10 (inicial = 20)	--	92,90
4 anos	0,30	18.80 (inicial = 20)	62,50	18,70
1 ano	0,30	5.13 (inicial = 25)	--	94,87
2 anos	0,30	12.77 (inicial = 25)	--	87,23
4 anos	0,30	34.15 (inicial = 25)	62,50	3,35

www.onlamp.com/pub/a/onlamp/2005/07/21/software_pricing.html

Precificação do software - Lefkowitz Modelo FOSS (valor base =100)

Derivativos: Scholes & Black,   **Juros** = 5% a.a.

Custos iniciais: Manutenção = 20 ou 25 a.a.

Volatilidade: Nasdaq 2004,   **Ciclo upgrade**: 4 anos

(base=100) Prazo	Volatilidade dos custos	Opçâo de Manutenção a 20	Opção de Upgrade a 50	Valor líquido da Licença
1 ano	0,30	2.85 (ref. = 20)	51,90	45,25
2 anos	0,30	7.10 (ref. = 20)	54,76	38,14
4 anos	0,30	18.80 (ref. = 20)	62,50	18,70
1 ano	0,30	5.13 (ref. = 25)	51,90	42,97
2 anos	0,30	12.77 (ref. = 25)	54,76	32,47
4 anos	0,30	34.15 (ref. = 25)	62,50	3,35

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