From: Jim Allchin
Sent: Wednesday, December 26, 2001 3:44 PM
To: Hillel Cooperman; Joe Peterson; Debra L Weissman; Jawad Khaki; Rob Short
Cc: Dan Neault
Subject: FW: Slides and Notes from 12/18 SLT meeting on PC Client Strategy.
Attachments: PC Client 12.18 01 Final ppt; PC Client SLT Corp. Pri. Notes.doc

I am violating Dan's direction not to forward here, but for a good cause. However, I do NOT want you to forward to your teams.

The included slide deck and notes were used in presentation to the SLT about the PC Client Strategy.

jim

---- Original Message ----
From: Dan Neault
Sent: Friday, December 21, 2001 2:58 PM
To: PC Client SLT Brainstorm ; Mike Tuohy; David W. Williams
Cc: Windows PC & Devices BLT
Subject: Slides and Notes from 12/18 SLT meeting on PC Client Strategy.

Highly Confidential – Please do not forward.

Thanks everyone for all of your help in preparation. Attached are the slides and notes from the SLT presentation on 12/18. I have also included below 26 potential action items from the notes. As you will see, these do not cover all possible actions implicated in the slides or in the discussion.

We are working on scheduling a meeting to review, and get formal approval for, the actions to take given the discussion. I have also asked the SLT for further feedback and will incorporate any they may provide.

Please let me know if you have any questions.

Thanks.
–Dan

Action Items: Owners proposed where not resolved in meeting. Each AI is tagged in notes as (AI#)

1. Papers on solid state storage for BillG: RichardF to have sent out
2. Managed PC. SteveB to meet with JeffR; BillG; JimAll to look at managed PC business and possibility of acquiring a service company.
3. Office.NET on Longhorn only. JeffR to drive to ground any open issues.
4. Natural Language: JimAll to get time with KfI to resolve what is possible for Longhorn
5. Hardware design and SI work by Msft. JimAll to drive follow-up
6. Download.Com/CNET RogersW to explore possible partnership with CNET around download.com.
7. Dell Pro mail: ChrisJo to draft mail for SteveB to send to Dell regarding marketing around Pro vs. Home (n.b. actual mix is high).
8. Windows business report: ChrisJo to develop report by the time of the BPR.
9. Mobile/tablet/laptop messaging: RogersW to drive re mobility as more attractive/valuable, tablet is part of Mobile.
10. Windows Pro-only Office.NET features. JimAll to follow up with JeffR.
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12. State Migration: JimAll investigate assigning additional technical people.

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16. Device Better Together: BillG to drive meeting around images, ink, peer-to-peer.

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PC Client Strategy and Business Growth

SLT Discussion

12/18/2001

Agenda

- Windows Business Strategy
- Situation Analysis
  - Business
  - Technical
  - Competitive
- Big Levers
  - PC growth
  - Ecosystem
  - Pro Mix
  - Installed Base
  - Non-PC Devices
  - Linux
- Other Broad Issues
- Appendix
  - Strategy Axioms
  - Anti-piracy
  - Customer Satisfaction

Windows Dream

- Even more relevant to people's everyday lives at work and at home
- Exciting and profitable place for partners to invest and innovate
- Much closer relationship with our customers

Windows Business Strategy

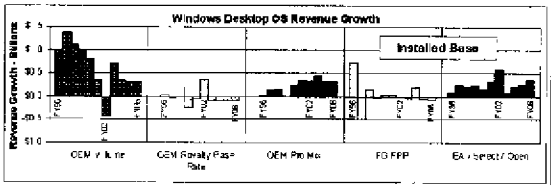
1. Focus on the key business levers
2. Scenario innovation (new & existing)
3. Create more value for others in ecosystem
4. Wireless and media are fundamental shifts
5. Better together with distributed device world
6. Tighter customer feedback loop
7. Keep moving the value chain up

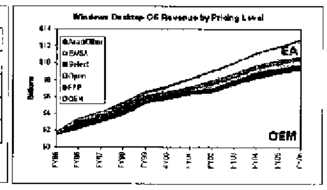
Business Situation - Microsoft

Overall
- $9.0B Revenue in FY02; 72% OEM
- Positive growth, but decelerating
  - FY96-01 CAGR = 19%
  - FY02-06 forecast = 9%

Installed Base Revenue ($2.5B)
- 511M units for FY02; 53% business
- Annuity Licensing is the key driver of $/PCIB
  - EA revenue of $1.0B in FY02
  - 29% of LORG PC's under EA,
  - Per LORG IB PC avg s $21/year
- Packaged product is about 5-6% of client revenue
  - Only reaching 1.2% of Consumer and SORG IB/year
  - Lower margins due to support costs,
    - XP FY02 cost @ $17/unit sold
  - Pro mix will inch up from 17% in FY02
    - Longhorn/Blackcomb will drive a step change

New Machine Revenue ($6.5B)
- PC Shipments reach an inflection point
  - FY95-01 Consistent annual growth of 13M units
  - FY02 Units down 3M or 3% Y/Y to 119M, $1.1B impact
  - FY03-06 Forecasted annual growth of 5M - 9M PC's
- Pro Mix is short term growth engine
  - OEM Pro mix increases from 22% to 30% in FY02
  - Targeting 55% by FY05, 70% corporate & 20% consumer
- Royalty rates are at risk
  - Royalties per MNA OEM currently holding due to MDP
  - Future declines expected due to competition & OEM consolidation
  - MNA mix +5 points to 73% in past 2 years, lowers avg RPL
- Piracy containment is critical
  - Activation cuts casual piracy 22% WPA Failure, 98% maxed / blocked
  - Legal efforts continue to provide traction
  - High growth & high piracy in emerging markets offset gains





Business Situation - Industry

- OEM business weak
  - Monetization through services, peripherals, servers, distribution, support
  - Minimal R&D investment on PCs
  - Industry driven to consolidation (OEMs & suppliers)
- Still working with Intel to focus on growing PCs vs. taking share or $
  - Vertically integrating (pulling value from IHVs/OEMs)
  - Fixated on competing with AMD
- Little VC investment in PC/Windows apps
- ISV/IHV interest focus on emerging categories/areas

Technical Situation

- PCs are arrested in the "good enough" state
  - Internet (browsing and email) was the last big boom for PC replacement
  - Windows XP capitalizes on: reliability and photo/music scenarios
  - Little HW innovation due to shrinking margins and low R&D investments in OEM/IHVs
  - Few breakthrough software applications and none targeting latest OS features (e.g., Napster)
  - Limited synergy between software and hardware advances (e.g., 3D graphics, wireless)
  - Upgrade, management, and deployment complexity limit adoption of new OS and applications
  - Innovation moved to the web and to "mobile" devices
- Longhorn is focused on re-invigorating the platform in key areas
  - Rich storage and presentation
  - Communication and community scenarios, better mobility scenarios
  - New rendering engine that takes advantage of the 3D graphics
  - Further improvements to automated feedback cycle (e.g., Watson and Windows Update)
- Still need breakthrough new scenarios, applications, form-factors and HW designs
  - New applications for communication, creativity, control, info processing, and entertainment
  - Communication and community enhance each application with network effects
  - Pervasive mobility and new form factors for new scenarios and re-vitalize existing scenarios
  - UI changes allow higher level tasks to be done in same amount of time (DOS->GUI->NL)
- Major technological shifts are under way looking forward
  - Pervasive connectivity, dist. apps and disaggregation change definition of the PC & the OS
  - Explosion of information, interruptions and required user actions demand new UI paradigms and personal agents
  - Digital media becomes key part of digital data/content and places new demands on systems
  - Self-management capabilities required given complexity explosion

Competitive Situation

- Linux offers a modular pool of commodity system and application IP that eases competitive entry into targeted segments
  - "Good enough" functionality, low cost and compatibility for key applications and hardware profiles threaten corporate/educational/international desktops
  - Evolutionary development ecosystem that continues to improve the basics
- AOL establishing a subscription relationship with every consumer based around a complete experience for communication, entertainment and information access
- Apple marketing end-to-end, cutting edge scenarios that combine hardware, software and services into an easy/elegant solution
  - Vertically-integrated hardware/software stack allows innovation to occur in lock-step; simplifies the testing matrix and the system complexity
  - OS X does an admirable job separating the slow-changing commodity areas (off-loading its development and maintenance to the community) and the innovative layer (UI, applications, integration, connectivity)
- Distributed device platform
  - Sony weaving a web of connected devices each focusing on specific application of experience and banking on Internet or IP-protected media for interoperation (e.g., memorystick)
  - Handhelds (Palm, PocketPC, phones) offering commoditized software in new mobile scenarios at fraction of royalty (from none to small)
  - Java is being pushed as a distributed platform (cell phones, home automation, server applications, client applications, mobility, embedded)

PC Growth

- Noteworthy trends
  - Drivers for PC growth
    - Relevance: compelling scenarios only enabled by new Windows versions
    - Impediments: reduce challenges to new sales and satisfying PC experiences
  - Challenges
    - Scenario stagnation: Web, e-mail, games, word processing
    - Balancing strategies: installed base vs new PCs for existing owners
    - Substitution: communication scenarios also enabled on cell phones, PPCs
- Plan of Record
  - Drive new compelling scenarios (especially ones that exploit new PCs)
    - New emerging scenarios [Music, Photos, RTC, Video, Distance UI for entertainment, Community (P2P, sharing), Multi-PC homes, multi-device integration, others TBD (Education, Home control, Financial to life mgt)]
    - Use NL search, presentation, storage, & connectivity to propel these
    - Market emerging scenarios – generate demand
  - Link new Windows releases to hardware advances
    - TW, Hyperthreading, stack execution, UI hardware acceleration
    - New designs / form factor to new usage scenarios (meetings, kitchen, living room, etc.) TabletPC; EHome, Mira
  - Reduce barriers to PC acquisition and satisfaction
    - Reliability, security, zero-install client apps; PC migration (state migration, deployment servers), make the 2nd PC install easy
    - Expanding Managed PC service trial

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Investigate operators subsidizing wireless data enabled PCs

The idea behind this comes from the observation that carriers are prepared to subsidize wireless PDAs to the tune of >$600 in return for a year's contract – so why not wireless PCs as well? They may in fact drive higher traffic & therefore be worthy of higher subsidy.

PC Growth - Ideas

- Ideas
  - Increase PC relevance & appeal
    - Think harder to impact scenarios today (browsing, E-mail & PIM, games, word processing)
      - new visual organizational capabilities
      - more ideas required
    - New class-breaking, captured apps from MS and partners
      - Office.Net should be demonstrably better (exclusive?) on Longhorn
      - NL app that everyone wants (PIM) – In OS or ONLY on new OS
    - Drive scenarios requiring more continuous access to PC
      - Work with 3G innovators on PC enabling
      - Investigate carriers subsidizing wireless data enabled PCs
      - Drive cell radios (GSM focus) into PCs; create simple apps
      - Take a leadership role in making 802.1x build-out
      - Link broadband migration to new PCs somehow?
      - Uniquely advantage Windows using these communication services
    - Invest more in culture specific Windows (e.g., China, India)
  - Reduce barriers
    - Expand customer financing pilots
      - Build upon learnings from HP-Walmart program
      - A way to establish a customer billing relationship

Ecosystem

- Noteworthy trends
  - Slowing PC sales, retail SW sales, and corporate deployments
  - OEM/IHV innovation and quality down
  - Continued move away from installing SW (corp and retail)
  - Partners not incentivized to drive Windows upgrades
  - PC not 1st class citizen in WW network (cable/STB, phone/PDA)
- Plan of Record
  - Zero friction client code (richness of Windows, cost of Web)
  - Easier SW deployment
  - Quality feedback loop with ISV/OEM/3rd party applications
  - Connectivity everywhere with PC as 1st class device
  - Community development a la Linux
  - Content protection/DRM
  - Better together Windows and devices (enables more devices)
  - Promote/Market "pure" Windows
- Ideas
  - OEM differentiation – HW IP pooling, per OEM opportunities
  - Consumer channel – catalog reference selling
  - Marketing program for corporate IT to feel safe using client code
  - Apps as communities w/ service – ongoing relationship, revenue
  - Make upgrade, PC purchase a revenue event for IHVs/ISVs
  - Create a business model for shareware

Pro Mix

- Noteworthy trends
  - OEM Pro Mix was 22% in FY01, 30% in FY02-Q1
    - FY02: Enterprise: 62%; SORG: 20%; Home: 3%
  - Pro generally not a consideration in new PC purchases for consumers
- Plan of Record
  - Move to more differentiated skus
    - Multiple Premium skus (superset of HE): tablet, MC, etc.
    - By default, most value-add LH features will be Premium editions only
    - Product naming/marketing/SKUs TBD
- Ideas
  - Reexamine how we are marketing Windows (taskforce to report by BPR)
  - Do in-place upgrade (once we have TW)
  - OEM discounting based on mix attainment
  - Questionable:
    - More "Premium only" classes of PCs
      - KW PC – legacy free, LCD with integrated video camera & mic, biometrics
      - SORG PC - raid HDs for backup, integrated phone
    - "Free" feature packs only with Pro
    - Security blanket around support (longer, more incidents, etc.)
    - Find synergy with Great Plains, bCentral

Installed Base

- Noteworthy trends
  - PC lifecycle 3-4 years (except for EAs, little revenue during interval)
  - FG revenue per desktop of $4 95 in FY02
  - FPP upgrades represent 1.2% of 339M consumer/SORG installed base per year
  - 1% increase in touching 511M IB is $350M
  - Minimal business from add-ons (Plus! @ $13M in FY02)
- Plan of Record
  - Sustaining marketing to drive Windows XP further into installed base
  - Easier to upgrade to the next OS version
  - Continue to improve deployment and management story for Windows XP
  - Continue efforts for ISVs and IHVs to improve quality and compatibility
  - Discount strategy for secondary home PCs
- Ideas
  - Use activation as a tool for broader proliferation for the upgrade
  - Add value (code distribution, licensing reporting) for Software Assurance (keeps customers on EA)
  - Home/SORG TS: TSCAL on down-level PC to access new PC/OS functionality
  - Subscription
    - Goal: get relationship with Microsoft (credit card in Longhorn)
    - Basics: tuning, sentry for problems, automatic improvements, anti-virus
    - How: Dedicate 50-100 people
  - Take SP+sizzle and market as new upgrade
  - Create a business model for "shareware" – good for vendors, customers, us

Harnessing Non-PC Devices

- Noteworthy trends
  - Run-rate of data-capable phones will soon surpass PC run-rate
    - 35M feature phones WW in FY00; 125M in FY01; 200M in FY02
    - Key data application is SMS moving to multimedia messaging (MMS)
    - Could become the primary messaging device for the rest of the world (80% of traffic generated by 12 to 24 age group)
  - MHP/Java platform gaining STB mindshare & potentially legislative backing
  - Potential erosion of PC royalty from expanding Pocket PC functionality
- Plan of Record
  - Allow PC to be replacement for any device possible
  - Preserve PC relevance through format adoption (codec, DVD, STB)
  - Participate in PDA/smartphone/STB categories
  - Connect it to Windows; better together, also enabling other devices
- Ideas
  - Raise royalty of PPC as value increases (e.g. carrier subsidy if voice enabled)
  - Beyond basic better-together with PC:
    - Proximity sharing (e.g., internet connection, printers, display)
    - Broader syncing (e.g., playlist, today screen)
    - Innovate in syncing protocols & auto-switching in wireless networks
  - Investigate gateway between IM/mail and SMS/MMS
  - Create a pay Windows update service for PPC
  - Make XBox games run on a PC

Maintaining Gap vs. Linux

1. Keep network effect with Applications
   - Migrate applications to .NET framework
     - BUT keep framework proprietary to Windows
     - Patents required to implement clone
   - Solve application/OS deployment problem even for Win32
   - Projecting Windows API experience into new form factors and usage modes around home
2. Keep network effect with Hardware
   - Keep growing range of peripherals supported (better together with other devices)
   - Drive key hardware initiatives (Trusted Windows fast boot, etc.) with OEMs
3. Innovate
   - Storage
     - Light-weight db, consistent programming model across file system and database
     - Focus on defining key metadata schemas and using them in the shell
     - Drive applications to use the new rich store
   - Shell
     - Visual enhancements driven by presentation platform advances
     - Beyond files and documents – promote users and groups to first class objects
     - Honing focus on scenarios – photos, music, video, gaming, communication
   - Presentation reform
     - Make the best use of massive 3D capabilities unused today
     - Scalable UI, integration of animation and video
   - Tighter customer loop
     - Further using the error reporting loop to rapidly solve customer issues
     - Automatic updates, even fewer reboots
   - Natural Language
     - Natural language for local (aided by the rich store) and internet content
   - Communication
     - P2P platform for ad-hoc applications
     - Focus on community and groups across all of the key scenarios

Broader Issues

- Missing Talent
  - Presentation architect
  - Next gen OS architect
  - Client programming model architect

- Potential Acquisitions
  - Anti-virus

- New Incubations
  - "New" OS
  - Broader Managed PC test
- Current Incubations
  - eHome
  - Indigo
  - Mira
  - Presentation reform/Avalon
  - Tablet

Appendix

Strategy Axioms

- Business Axioms
  - New machine focus
    - Royalty is king
    - IB retail bump/excitement on new version
    - Less (basically no) free new value (vs. QFEs) software to IB
  - Tiered price points
    - Most new value in Pro; but remain competitive in HE
    - More Pro value for SORG and Home users
  - Maintain HE OEM pricing by adding new value constantly
  - Move to annuity/ongoing relationships with customers
  - Get the ecosystem more healthy (developers, OEMs, etc.)
  - Fight piracy
- Technical Axioms
  - Romance hardware improvements (e.g., TW, integrated webcams, wireless, etc.)
  - Simplification and value through integration
  - Market Microsoft Windows pure experience
  - Focused quality efforts (reliability, security, etc.)
  - Search for "irresistible" new experiences
  - Need technical synergy with Office that is only possible on new Windows releases
  - Holistic automated feedback loop
  - Move to componentization for flexibility
  - Synchronized release with server
  - Richer programming model (presentation, storage, networking)
  - Invest in formats/protocols (ensure we are not blocked; gather IP advantage if possible)

Anti-Piracy

- Noteworthy trends
  - Piracy growth in emerging markets follows PC growth
  - WPA rejection rate of 22.1%
    - 21 7% Internet, 24.3% telephone
    - Reasons for failed activation:
      - Maximum Unlock – 74.7%
      - Blocked Product Key – 23 0%
      - Unsupported / Out of Range PID – 1.3%
      - Dropped License Mismatch – 1 0%
  - Top 4 PRC PC makers ship Win XP with new home PCs
  - Two Windows XP VL keys leaked (XP Pro selling for ~$2)
    - Intel (large implementation in Kuala Lumpur)
    - Mexico City (Early Adopter—being investigated)
- Plan of Record
  - Numerous raids monthly WW by BSA and LCA
  - Block upgrade for known pirated keys
  - Secure RIS install; currently shows key on screen
  - Expansion of WPA into VL space
  - Require enterprise activation server (to eliminate the need for unrestricted VL keys]
  - Customized strategies in different geos to avoid opportunity space for Linux
- Ideas
  - ?

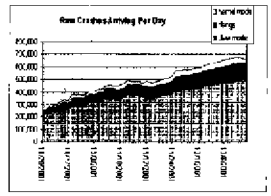
Piracy by Region

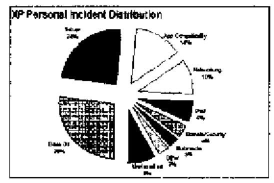
	FY01		FY02	
	% of PCs	Piracy %	% of PCs	Piracy %
United States	35%	13 0%	31%	13 0%
Canada	3%	16 0%	3%	18 3%
Latam	6%	42 0%	7%	40 8%
South Pacific	2%	14 6%	2%	13 1%
Total ICON	11%	31 4%	11%	30 9%
W Europe	25%	7 7%	26%	7 7%
E Europe	2%	35 7%	2%	37 1%
M East/Africa	2%	5 3%	3%	6 0%
Total EMEA	29%	9 6%	31%	9 8%
Japan	12%	0 3%	11%	0 3%
Korea	3%	6 4%	3%	7 0%
China	6%	52 5%	10%	52 9%
South Asia	3%	40 9%	4%	43 2%
Total Asia	25%	21 4%	27%	25 1%
WW Total	100%	16 1%	100%	17 3%

Source MS Subsidiaries Oct 2001

Customer Satisfaction

- Noteworthy trends
  - Approx. 500K WER/OCA crash reports daily on Windows XP, expect to double by Christmas
  - Still too early to know what is going on with Windows XP
  - Web-based support 35%-40% of all incidents, costs 50% of phone support
  - Licensing, Support, Documentation all big dissatisfiers
  - MSFT is held accountable for everything (bad) the customer experiences from the ecosystem
- Plan of Record
  - Target top 33% of crashes for Windows XP SP1 / WU
  - Learn from customers (real people/real data, managed PC)
  - Improve PSS Feedback call coding, outsourcing, and data sampling / mining issues
  - Mine PSS data
  - Get information from OEMs on their support issues, work on standard process for OEM data
  - Establish community
  - Build new feedback mechanisms into Longhorn
  - Tune memory dumps for more useful information
  - Provide free installation support
- Ideas
  - Unify existing feedback & customer input platforms
    - Reflect back to customers our receipt and response
  - Implement a "This sucks" button
    - Captures state, screen, user comments, action
    - 1000 person trial (requires broadband)





Top New Actions

1. More scenario investment required
   - digital memory, wireless, community
2. Get relationships with wireless carriers
3. Incent IHVs/ISVs for good experience on upgrades
4. IP pooling with OEM to increase R&D
5. Reduce friction for rich client applications
   - business model for shareware
   - marketing program for corp IT
6. Greater network effect around PC "devices"

PC Client Strategy and Business Growth SLT Discussion 12/18/2001

SLT Attendees: BillG; SteveB; RickBe, JimAll; JeffR; OrlandoA; DavidV, BobMu, CraigMu; DWilling; Anoop.

Presenting: JimAll. **Presentation Attendees:** RichardF; BrianV; ChrisJo; RogersW; BillBen; DNeault.

Action Items: Owners proposed where not resolved in meeting. Each AI is tagged in notes as (AI#).

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Notes below supplement slide materials; slide titles are underlined.

Opening

This was the first of the Corporate Priorities meetings agreed to at the last SLT offsite. The template covers situations (Business, Technical, and Competitive) and then areas we can influence (covering Trends, Committed POR, Ideas). The context is bigger picture; there will be more on details at MYRs.

Windows Dream

- Windows became more relevant with Windows XP & the new NT platform, but it needs to be even more relevant. Windows is not as exciting or profitable a place for partners as it could be

- Once we get a better relationship with customers they are more likely to buy more products and services from us.

Windows Business Strategy

- Key point is to focus on "levers" (known business influencers/considerations) and watching them carefully to avoid surprises.
- There is some controversy over the ecosystem health, it was mentioned that we helped make the PC a standard & should be glad we did
- Wireless is more than 802 11, and includes WAN
- On moving value chain up, Intel is far from messaging to scenarios and, they need to get people on that path This is covered later.

Business Situation – Microsoft

- \$9B is client only revenue, and for EA's \$50 is about the most we expect.
- Some improvements are expected over the forecasts shown
- Linux was noted as a big factor; a small share could grow quickly. While we have not seen material Linux clients, we are losing in academic areas, and professors using Linux are entrenched.

Business Situation – Industry

- CPQ is considering cutting PC client R&D, and OEMs are driving consolidation by treating all their suppliers as commodity vendors.
- CPQ & HP consolidated their consumer and commercial divisions because of lack of a business model for differentiated client PCs, independent of any effects from Intel. Consolidation in graphics was noted, recognizing that Intel helped cause this. That this had hurt quality was challenged.
- Our 64 bit work with AMD has positive competitive effects, and the incompatibility of 64 bit platforms between AMD & Intel is significant. We should be patenting appropriately, this creates more influence with Intel than in the past. Our relationship with Intel is positive relative to the past 4 years.
- Two observations on Intel's go to market are. 1) because of the marketing power behind Intel Inside, there is little margin for retailers to do much beyond this because the message would get lost; 2) we want them to favor Windows over Linux and they are imprecise there Intel uses Intel Inside money to compete with AMD and lets OEMs promote scenarios; Intel has huge financial and legal obligations here. It was noted that they are much less Linux focused than 1 year ago, and 2 reasons were given: 1) they were less positively disposed towards us than now; 2) they were playing other hands, there were legal and personality reasons why it was hard to play their hand with us. It was also added that now IBM has them scared and that Linux is double-edged for them relative to us; it could pull us into a closer relationship, or could alienate us.

Technical Situation

- It was mentioned that software as a service is part of reinvigorating the platform to the extent it would reinvigorate the programming model, and that this is a multidimensional problem.
- It was suggested it would be valuable to have a service that allowed people to roam and back up their data, as well for Office as for e g. AutoCad, and that this would be popular for client applications.
- Casual code mailing around was raised as exciting for new classes of ISVs; this was reinforced for peer-to-peer usage, and it was noted this could be viral. It was mentioned as a disappointment that for security reasons we are impeding shipping code around: the basis of the Von Neumann machine.

Competitive Situation

- Linux was listed first not because of where it is now, but because of where it is going with their engineering inertia. RedmondLinux is a look-and-feel clone with installer and it is good; if we stand still they will catch us.
- AOL's subscription business creates a relationship with customers in many dimensions.
- Apple's IPod shows leadership in synergy (e.g Playlists) and was a missed opportunity OS X was smart because they were able to separate the commodity Mach kernel for the benefits then differentiate and have value on top of this This is what IBM is doing at a higher level (with Linux).
- Because PocketPC's are ¼ of the royalty, if we are not careful we can eat our own lunch. A key PC differentiator is full size display devices, but we need to work on boot time.

PC Growth

Noteworthy Trends

- In the debate of new machine vs. IB, new machine royalty is still king.
- On substitution effects, small screens are not a full replacement for a big screen; while Palm might grow up, many would choose a big screen that was lighter with a larger battery. A LAN is also key.
- PocketPC devices for calendars and contacts were mentioned as an acceptable device for situations such as a vacation. It was posed as the interesting question why not take the PC even if taking a PDA, e.g taking the bigger device too when doing an activity such as photography.

Plan of Record

- It was clarified that features such as creating a conference call, call routing, VM are considered as part of RTC in this context; these were collectively referred to as information agent features.
- Scenarios creating new demand are hard to get through to people that haven't used them, such as the case of digital photography. IPod ads on TV were mentioned as awesome. It was observed that as a discriminator on camera devices themselves, our UI would be inferior to Apple's.
- It was questioned if our broader ads are as effective, and noted they are for a broader "feeling" purpose. It was suggested we take a part of our message, a new scenario, and push it when we bring out a product. It was recalled that we used to effectively push scenarios in journals, and instead we went to expensive media. It was suggested that a shift to scenarios might hurt trickle down effects from current ads, and acknowledged these are effective to an extent.
- Our scenarios should leave people blown away, and our online tours should be in effect our ads, but we don't know how effective these are; that this is an example of how we should improve our feedback process. Someone mentioned that people they show digital photography to using a Digital Elf had no idea how easy it was.
- It was observed how much more enthusiasm there is in Japan on PC innovation than in the US. It was agreed that solid state storage would be an interesting area for investment in Windows. The user benefits mentioned were ½ the weight, size, and instant on, and that this is newer than nand/nor flash, but that there are some technology issues. Some papers will be sent out for BillG's think week (AI1). It was commented there will be technologies coming before MEMS that are better, and we don't have a program to be ready for these before they come out, and that they will go to embedded applications.
- On the subject of synchronizing new Windows releases to hardware advances, it was clarified that we would be marketing to the first list (TW, hyperthreading, etc.) only in the biggest sense and input on improving the list was welcomed. The second list (Tablet, EHome, and Mira) was recognized as better. WiFi, instant on, and microphone (PC as superior phone) and ambient noise were added. Wireless & broadband were noted to be in Longhorn.
- On zero-install client apps it was said that with every release of Windows someone declares some victory, and clarified that this should not have happened for Windows XP It was affirmed that we have the kind of progress that is a marketable milestone, and that it will get better for .NET applications

- Our Managed PC trial was noted as promising, and a meeting will be called (AI2) for JeffR; SteveB, BillG; JimAll to look at this business, and the possibility of acquiring a service company. It was noted that we have done a trial in the past as well.
- It was closed we would be looking for new ideas from research, in wireless, more on synch, and that we needed more and ideas should be sent to JimAll

<u>PC Growth - Ideas</u>

- It was clarified that it is desirable to have Office Net run only on Longhorn, but that the team believes it should run elsewhere with fewer features The concern is that some doubt it will work well on earlier versions and don't want a bad user experience. JeffR (AI3) will drive this to ground.
- On Natural Language, JimAll will get time with Kfl (AI4); there may be more we can do for Longhorn, and it is unclear how to market the current ideas, and we might not yet be on the right path.
- There was concern that carriers will resist pushing for a subsidy model for wireless PCs; that they want to get out of the subsidy mode, and they want a SIM card in the PC. It was noted that it is important we get into the wireless space and that JawadK is all over GPRS & 3G networks, but that Outlook behavior is weak, and for browsers other people have accelerators and ours is not a fast. It was closed that we need to drive cell radios into PCs.
- It was raised that we need to do something different in tools, and commented that for asynch, Indigo is much better. It was noted that for GPRS latency is a problem, but that the next generation of Outlook does a much better job on disconnects.
- On doing things in a more culture-specific way beyond IME, whatever we do, we should do in a well connected way.

<u>Ecosystem</u>

Noteworthy Trends

- While partners are behind Windows if a new version of Windows will help them sell their newer products, they are not motivated to help in compatibility for already-sold peripherals.

Plan of Record

- In the context of "connectivity everywhere", POR means people are assigned and that we are working on strategies.
- For Better Together we should list devices we want to be better with.
- The JPEG replacement work that we are doing, and getting everyone to embrace it, is big.

Ideas

- On the idea of OEM differentiation and creating narrow patent pools where "out" parties license from "in" OEMs (with solid state memory as an example), it was suggested instead Msft should drive. Microphone & camera arrays were suggested as counterpoint examples where OEMs should innovate. It was suggested that if we do this Japanese OEMs such as Sony were ones to work with, and that Sony is not a PC company in a core way, but that OEMs won't ship PCs with this new, expensive hardware; because of the price points they would not take the inventory risk. This was countered that if Windows enables this they will, but that using Sony as an example, they try to get us to support their hardware (memory stick as an example) and we decline unless we originate the ideas. Patent cross licenses challenge this in that some companies are already licensed.
- It was suggested we have a group that does design and system integration (and we patent) and then we suggest an OEM build machines using this, buying components under this design. JimAll said that we should do this (AI5), but that pooling is different because OEMs would drive.
- This approach of patent pooling was also doubted as being like previous efforts to keep LARs going – that ultimately it wouldn't work out It was again suggested in Japan they might attempt this. It was observed that companies had to have volume and R&D, and two candidates were noted: 1 without the R&D and 1 that couldn't find the talent, but that HP might be willing to do with outside components It was affirmed we needed to step up to the system integrator role, and was suggested it won't come from traditional suppliers

- It was questioned why Dell does all the great things they do on laptops, and suggested that where OEMs are building machines with innovative software and IP, what we would do here would not help them. It was asked why not just suggest to them to buy our designs.
- It was posited that if we had the applications that created the demand, the OEMs would step up and build the hardware required to support them.
- The IP pooling idea in general was countered using Tablet PC as an example, that we didn't go to SGI to create a shield and include our patents, it was reaffirmed we don't share our patents It was noted that the essence of the pooling was to create economic incentive, and that we should just use money, and not patents
- It was claimed that component vendors integrate, and system integrators innovate, and that we have not seen major innovation from OEMs for years. It was suggested it is cheaper and better for us to prototype in software. and more cost effective for the world for us to then go to the component vendors. It was noted OEMs are in charge more than Msft and that Taiwan is the place to put our efforts
- When it was asked what happens if CPQ steps out of PCs, it was suggested that Intel would step in, and that specifically if CPQ is jilted they may leave the PC business unless Intel sweetens the deal. It was again suggested that ideas/R&D should come from us; that we should design, patent, and write the needed software ourselves.
- When it was suggested we need a PC design group, 3 were noted, Tablet, SteveKan's group, and CraigMu's incubation (which is moving to Tablet). It was reminded that the technical pride in some companies is very high.
- On catalog reference selling, effectively baking the catalog into the Windows experience (e.g. recommending partners, selling memory) it was said that if the context is logical, this is good.
- On a marketing program for corp. IT to use client apps, it was noted that the biggest group of developers is VB and 80% of them are writing client code, even if companies don't think of themselves as writing client code. We agreed we need to reeducate on the benefits, e g. Siebel.
- On a business model for shareware, the expectation is that it would raise quality, incent other people who are too small to set up the infrastructure that big sites already do today. Someone had spent 40 minutes talking with CNET about download.com, and suggested we might want to partner with them (AI6); that 75-80% of their traffic is from download.com, and that the head of that might be Halsey Minor (sp?) who is a friend of REmerson

__Pro Mix__

Noteworthy Trends

- It was suggested Dell does not market Windows XP Pro as much as they should, even though they make $50 more in profit. This seemed surprising, that Dell would work hard for $50. It was claimed that at Dell everyone knows this, but does not always push Pro ChrisJo was to draft mail for SteveB to send to Dell (AI7) on this, it was odd in that they make only $30 low end PC. [note: their current Pro mix is 60%+]

Plan of Record

- It was pointed out that Pro is not a superset of Home because it doesn't have Fast-User Switching if it is on a domain. It was recognized we ran out of time, and that few people have domains at home, and we will change this for Longhorn.

Ideas

- We are not sure we know everything about the PC client business we should know, thus Windows will be making a report by the BPR (AI8).
- It was discussed that portable mix is going down, and that people are hung up on speed; that customers say if they can get 2x the speed of a portable on a desktop, at half the price of a laptop, then they will take 2 desktops. It was recognized that mobile is more attractive, and worth more

money. and that tablet is part of this recognition It was suggested that with editors we should be shifting the nomenclature and context from tablet to mobile, and RogersW (AI9) will follow up.

- On in-place upgrade from basic to premium versions, it would be broken too quickly if we do this before Trusted Windows, and there are non-zero things to think about in the channel.
- It was noted we are making great progress on Mix. For the next major release we need a clearer message on Pro/Base. Positioning was discussed that if you log onto a corporate network, you need Pro, though if you are using RAS or VPN, base will work.
- Consumer differentiation is hard and it was suggested that some features on Office Net only run on Pro Multiple displays were mentioned as tried in the past and not working. JimAll said we would follow up with JeffR on this (AI10)
- Games should be a design point for Longhorn Pro, and that now it is not a conscious part of the roadmap. (AI11)

<u>**Installed Base**</u>

Noteworthy Trends

- A laptop lifecycle is shorter, at ~18 months, than the 3-4 years for a desktop.

Plan of Record

- With Windows XP, upgrade is much easier, but state migration (e.g little things in the browser, Office) can be aggravating. This can be improved and should not require Office changes. It was suggested no one thinks about this with enough focus, partially because ITG does a fresh install, but in contrast mentioned that for file & transfer settings, we get very positive feedback.
- It was observed that state should be pulled into a blob file, then one should be able to upgrade over this, and mentioned that we can do this in Windows XP, but that it is not easy and not integrated. It was agreed that state migration and roaming users should be the same thing, and that engineering already knew this JimAll said that we might not have enough technical people on this (AI12).

Ideas

- On an idea of wide distribution of Windows XP after the retail spike with 30 days to activate, it was mentioned we need to 1) make it so users can go back/uninstall; 2) have users know they really can go back People tend to say either they like Windows XP or that they would like to try it, and it was acknowledged as a little embarrassing to say people might want to go back, but we have to do this. The idea of software that people can try, but if they don't like it go back (AI13), was recognized as attractive.
- It was suggested that whatever we do here we do in a way that is a platform service, that in particular BSA had said product activation is great: way to go, and if it works, others want to use it. This is true for other ideas such as technology to support software trials, and other software companies don't want to figure such things out, but if we do, they will use it (AI14).
- On Software Assurance, it was noted this is more important on Windows than on other products.
- On a TS CAL in the home, non-traditional clients (e.g. refrigerators) were raised as a challenge It was explained we could lock down features (email, browsing) as with Mira, but suggested it would need to go further, such as having no keyboard or ink, and that it wasn't known how hard it was. JimAll said he wants 2 hours with BillG (AI15) to go over this. It was noted other executives don't know how to use terminal services either, but clarified it is as simple as typing your machine name into the browser
- On subscription, there was support for funding efforts here. The idea of the first 18 months free of charge, then charging $20 or so, was raised. It was noted that in the Managed PC trial at first people said they wouldn't pay, but then when it ramped down, they wanted it and asked how much.
- On SP+sizzle, it was agreed not to repeat ME, and that if we call something a new release, it has to have a great deal of incremental value, even if that is not what we are being asked by the channels

<u>**Harnessing Non-PC Devices**</u>

Noteworthy Trends

- It was suggested the PC always has to be the superset. It was asked where our Device Better Together effort went, and noted that ToddW is picking up after the reorg. BillG said he would drive something on this (AI16) around images, ink, peer-to-peer It was mentioned that in the last strategy meeting of the DSLT there was a request for a meeting on devices working together, and that someone from productivity should be there It was agreed that we wanted to have the apps on the PC superset non-PC devices.

Plan of Record

- It was questioned if PCs will ever make it to the same mobility. It was affirmed we need to have the strongest offering for the full screen, close to user device, and that while Palm would likely not go there themselves, someone with deep pockets could become Palm's best friend.

Ideas

- On raising royalty as value increases, ours is a premium product already. It was suggested the best idea is the Zenith broadcast network, for $4-9 a month, even if we subtract out the Zenith chip royalty There are challenges in wireless radios in PocketPC's and we are not sure how carriers will respond; we are not weak there but we are not powerful. It was asked if we were thinking about Zenith in PC's, BillG said probably not but that he would talk with Rashid about this (AI17).
- PieterK is a big fan of the SMS gateway and we should follow up with him (AI18).
- For XBox it was suggested we use TS in XBox to remote a player to another PC Bandwidth was mentioned as a problem. XBox as a 64 MB, 733MHz, 8GB machine that in theory should be able to run a subset of Windows/EHome and fault to the disk, and it doesn't matter that games don't run on Windows/PCs now, because for successful games they tweak every year. It was noted that if eHome ran XBox games it would be huge, but that we can't do this easily; 2 years if do a great job JimAll said that he is happy to see what can be done now that this is engaged in (AI19).

Maintaining Gap vs. Linux

- The NET framework contains the latest developer platform innovation for the future, and it must be licensed like Windows. Subsets have gone about as far as they should go in the standards bodies, but we need a compact subset for phones and TVs. It was noted that we have to be careful because once the horses are out, they are out forever. At the right royalty, we can have the discussions around technology beyond this.
- Terminal services were acknowledged as having great potential; that in all that we do, if we win in the device/application class, that is all that matters; this doesn't favor MSN, but ..
- It was raised if strategically we should invest heavily in children's software; that the entire business might not be more than a couple hundred $M – and that we might need to heavily discount the OS as we did in Czechoslovakia. It was mentioned that we could do this, but it might not be that key.
- The plan is that images, inks, and still formats will not go to Linux like some of our digital media formats will. This would mean that if someone downloaded images, it might violate patents. There was a discussion of a new format where as one takes pictures, the pixel resolution compresses.

Broader Issues

- On key talent, for a presentation architect it has to be someone heavily into graphics; top/down from layout all the way into hardware. It was suggested it should be two people, and that we look to Rashid and Kajiya for ideas (AI20).
- For a next generation OS architect, the notion is to find DaveC 2001. CraigMu's project was suggested as a place to look, with the caveat it might be too future looking. This new project must look at namespace & programming model with CLR native, and the former is not that, but it was disaggregation. It was here also suggested it would need to be more than one person, for example we need someone on CLR, but we already have a prototype of CLR native on Windows. It was suggested

we look to the Indigo team. SteveB closed suggesting with a meeting with DavidV, CraigMu, BillG, JimAll on this (AI21). It was agreed this should be someone internal.

- On anti-virus, it was mentioned that there were discussions with the heads of two interesting companies over the past two weeks. SteveB said he would talk with JimAll 1:1 (AI22). It was observed that their advertising on the radio is very compelling, and that the web service offered by one of them is well done.

Anti-Piracy

- It was asked if we see the results of product activation in the sales numbers, and noted we do in system builders, even in high piracy countries, but it could be blips before the piracy starts up. It was requested that we should look at activation and sales data (AI23). It was suggested that bulk piracy will overtake individual, and that we only see this in some countries. It was suggested hard disk loading would leak, and acknowledged it already did with the two keys. System builder piracy (counterfeit & HD) was suggested to still be at 50%, but a big uptake at launch was noted. It was mentioned that we are going to move to staging servers within all companies.
- It was asked if trusted Windows was after Longhorn, and answered that it should be before: with AMD next summer and Intel in mid-03. SteveB asked for all features in Longhorn to be written down in 2-3 slides (AI24).
- It was noted that a federal government mandate for new PC specs is in work next year, and it would be great to get TW in there.

Customer Satisfaction

- Product Activation does not seem to be a big problem.
- There are many issue reports from Windows XP, and from these we don't have the right customer feedback for all our needs. We had expected there would be a lot of reports based on results from Office IE is a big issue (plug-ins), but graphics is not as some expected, with Nvidia responsible for 8/10 of the video issues. FastTrack KaZaA is a big issue after IE
- Crashes in Outlook go to Office, and JeffR committed to send out the Office reports (AI25).
- On blue screen on kernel problems, it was clarified that the machine prompts when it boots. It was commented it might be BlackIce (IDS), which is a 3rd party product.
- We are going to trial a "this sucks" button, noting that MSWish does not provide as much information as we would like.

Closing Comments

- JimAll thanked the people who helped prepare.
- It was observed there were no comments on MSN, while we did mention AOL. It was mentioned from the reorganizations that there is less opportunity for friction than in the past, and more synergy, and that Msft has both assets. JimAll said he would follow up on this (AI26).