

## QUESTIONS FOR OREGAN NETWORKS FROM DIGITIMES

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### **1. Oregon Networks is headquartered in the UK and has offices in the US, France, Japan and Taiwan. How many employees do you have and how were your sales in 2005?**

Oregon has approximately 30 employees. 80 percent of the company's resource and capital expenditure is invested into new product engineering, professional services and software quality assurance.

By December 2005, the company had licensed over 3.3 million units of its solution in the APAC, North America and EMEA territories.

### **2. Your website indicates that you are now maintaining a cash positive position. You were founded in 1997, when did you begin to break even?**

Since its inception in 1997, Oregon has raised one round of funding. The company has been self-sustained ever since, consistently investing profits into creation of new technologies and expansion of customer support resources. The breakeven year for the company was the year 2001, following the conclusion of its most prominent contract with Sony Computer Entertainment Europe.

### **3. How have you managed to achieve this in an emerging industry, while other players are losing money?**

Oregon has been successful in capturing early commercial opportunities within the Internet TV and Video over IP market. These early market opportunities were presented by the installed user base of the more mature markets: gaming consoles, namely PlayStation 2, along with hospitality and institutional entertainment deployments through IPTV systems partners such as Philips Electronics.

A practical approach to product planning and targeting realistically profitable markets and customers have been at the heart of the company's development strategy.

Oregon's engineering resources are only spent on development of viable technologies and support of volume customers.

### **4. Within the industry, how do you quantify your position? Are you the leading solution provider in any particular application space?**

A critical view on today's industry situation will reveal that broadband - the all-important condition of digital entertainment - has been slow in coming, which explains low volumes and lack of other signs of a mature market: such as standardization, expertise and full-scale competition. To date, Oregon has attained a strong foothold within the connected consumer electronics market being the web access technology on PlayStation 2, which by far dominates connected entertainment platform across the world. By comparison with the total number of IPTV deployments by the end of 2005 - approximately 2 million - the 37 million units of PS2 in EMEA alone is a staggering size.

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Another great success of Oregon's is a contract with Philips Electronics, who controls approximately 80 percent of the overall hospitality A/V equipment globally.

A recently signed supply contract to a leading Japanese corporation further strengthens our position in the CE segment, particularly in Asia.

In the telco market, Oregon has forged supply contracts to the behemoths of the industry, such as NTT and a number of undisclosed European and Asian carriers. Now, that the telco TV market is starting to happen, the number of related opportunities in the pipeline is immense and it is our belief that the long-term leadership in the metropolitan IPTV will be defined in 2006-2007.

**5. Another UK company, ANT Software, claims to enable over 70% of global IPTV deployments? Are they your major competitor? Are their solutions similar to yours? How does your solution compare to theirs, i.e. where is your competitive edge and differentiation?**

It is difficult to comment on the quantitative positioning of ANT as this depends on their definition of the IPTV market. Seven of the world's major telcos have currently chosen to follow the Microsoft path and we envisage that they (Microsoft) will capture a significant market share in the beginning of the volume IPTV deployments with tier-1 telcos in US and Europe.

ANT are a strong competitor of Oregon's in the IPTV browser and User Interface space. They have made a valuable contribution to the development of the TV browsing market and the standards-based approach.

However, there are differences between our technologies and functionalities they deliver, as well as in our respective target markets.

Oregon's approach to its technology product strategy is holistic. Oregon Media Browser is more than a browser. It incorporates the complete set of device "intelligence" building blocks for network entertainment. This approach provides for a more lightweight client solution and expedient delivery of target devices.

Oregon Media Browser is an amalgamation of synergistic technologies and standards, delivering a comprehensive set of advanced features:

- User-initiated browsing and search of broadband content
- Delivery of targeted media and advertising
- Accessing of linear and on-demand audio and video services
- Multiroom distribution of digitally stored media.

In terms of the target market, Oregon has a dual focus: connected consumer electronics and fixed / mobile carriers. Oregon is closely integrated within both ecosystems, with a significant lead in the Consumer Electronics segment which involves work with non-telco video services, support of appropriate Digital Rights Management solutions and work with Intel on integration with the Viiv PC software.

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### 6. Does the UK lead the world in this area? Why?

Historically, England has been the cradle of digital TV and all things embedded. Looking back at the history of computing, the first embedded systems and processors were created in Cambridge, through a plethora of Acorn Computers initiatives in the 1980 - 90s. The first Video on Demand project was launched in 1994 by Acorn Online Media, with subsequent sale of the Acorn Set Top Box and RISC OS IP to Pace Micros.

Parts of surviving technologies live on today in ARM Holdings (accounting for 75 % of all 32-bit embedded CPUs) and Broadcom DSPs.

Interestingly, the UK has the highest household digital TV penetration in Europe, primarily driven by Sky and Freeview.

### 7. You work with both device vendors and system integrators in vertical industries. When with system integrators, do you influence the choice of hardware provider? How does the relationship work?

We work with a number of manufacturers which allows our telco ecosystem customers - either carriers themselves or their system integrators - to make a selection based on their target price, solution maturity and specifications requirements. The relationship model is flexible: the end brand customer may choose to license directly from Oregon or through the ODM.

Typically Oregon is involved on many levels of productisation, such as silicon hardware survey and selection, third party technologies integration, specification and design of the Graphical User Interface, certification by industry standards bodies, such as DLNA. Taking new products into market is a lengthy process, especially with constantly evolving standards and requirements. Productisation expertise is an important part of the service that we provide.

### 8. How do your sales break down between hardware vendor licensing and licensing to system integrators and other types of partners?

Approximately 95 percent of our sales are directly to the deploying customer, typically a consumer-facing brand. It is often the case that a large telco or consumer electronics brand has an internal systems integration arm.

### 9. Can you tell us how your sales break down globally? The customers detailed on your website indicate you have more success in Europe and Japan than in the US, is this true? If it is, why?

Japan and Europe have been leading the world in embracing broadband and interactive television and hence became our focus. The majority of our sales today are in EMEA. Based on the projections of our Japanese customers, we expect volumes in the multiple millions by the end of 2008, covering primarily the large metropolitan areas, including

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Tokyo. Our deployments in the US represent the smaller part of the pie. A retail debut of Oregon-powered hybrid Digital Video Recorders with home networking functionalities is planned for March. We are also in discussions with a number of Fortune 500 companies within the telco segment.

### **10. How important is Taiwan to your business?**

Taiwan for the world is the forge of CE and CPE hardware, offering an optimal combination of economies of scale and increasing engineering expertise. We work closely with our ODM partners in Taiwan to deliver "near turn-key" devices as well as fully head-end integrated solutions.

### **11. Your list of chipset vendors is mainly US-based, with a couple from Japan and Europe. How closely do you work with the chipset and processor vendors? Are you working with any Taiwan-based IC design houses?**

In 2002 - 2003, we worked with ALi (Acer Lab Inc) - a Taiwanese chipset design house. Unfortunately, despite the very advanced specifications of the product combined with the price competitiveness - the outcome of this collaboration was unproductive.

In January 2005 we discovered that the silicon had to be withdrawn from the market. In 2005, we licensed our solution to another Taiwanese silicon vendor who plans to build portable entertainment devices powered by Oregon's solution.

### **12. You indicate that Taiwan's Mitac and ZyXel are contract manufacturers within your "business ecosystem", are they producing products for your other customers, or are you working directly with them on products of their own?**

A concrete device project is always customer-driven. As part of the process, we provide engineering and customization consultancy to ODMs, like Zyxel and Mitac, in creating customized and differentiated products to fit our mutual customer's requirements.

### **13. What types of products are they producing with your solutions? They are both attending the CES Show, will they be showing products that use your solutions?**

Mitac were demonstrating hybrid devices with Ethernet and wireless a/b/g connectivity in a Network DVD and Digital Media Adaptor form factors.

### **14. What other companies will be at the CES Show exhibiting products that utilize your solutions?**

One of our key silicon partners Sigma Designs was demonstrating reference designs for streaming of WMV9/VC-1 and H-126/AVC over broadband and home networks. These combo reference designs are targeted at convergent Telco and CE market.

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Texas Instruments was showing a Set Top Box reference design.  
Digital Living Network Alliance had a demo of our NetDVD.

**15. How many years have you been exhibiting products at the CES Show in Las Vegas? How important is the show to your business development? Do you exhibit at any other shows, in particular in Asia?**

We have been exhibiting at CES for 6 consecutive years. It is a fundamental event in our global business development efforts as well as building the brand. An equivalent of CES in Asia for us is Computex, during which we exhibit regularly. We are planning to demonstrate a new HDTV platform during this year's Computex.

**16. Within your existing solutions, are you showing any new functionality at the CES Show?**

This year we were demonstrating 2 new features.

First of all, the CinemaNow direct-to-device service delivery framework, which utilizes our new development - a set of server-side XML applications and business logic in conjunction with the client-based all-in-one Oregon Media Browser, which is a web browser, media player and Windows DRM 10 combined. Through Oregon's framework of service delivery, CinemaNow can now be received directly on the consumer electronic devices, bypassing the PC.

Secondly, Oregon announced the roadmap for compliance with CEA-2014, the new Consumer Electronics Association standard launched at CES 2006. The standard is spearheaded by the prominent CE brands Philips and Samsung and specifies the mechanisms for interoperable delivery of web-based services to devices, utilizing proven industry standards: HTML and UPnP.

**17. What types of customers are you hoping to meet at CES?**

We had productive exchanges with both telcos and global consumer electronics brands.

**18. When could we expect to see products in the market that have resulted from discussions at CES? That is, how long is the development cycle for products that your solutions enable?**

Each project length depends on the requirements of the customer and the nature of the product. Delivery of video on demand services is typically a multi-vendor project, involving several stages of bidding, integration and trials. These products can take up to 3 years to get to mass market.

On the other hand, an average full CE product development cycle is approximately 9 months, with total of 12-15 months timeframe to reach the end consumer. This involves negotiations, selection and integration of hardware components and third party

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technologies, certification, production, retail marketing and deployment. In cases, where our customers make minimal adjustments to the original reference design, the time-to-market can be shortened to the 6 months production window following the QA.

We plan to have demonstrations of web-enabled DVRs, mobile devices and LCD TVs at the next CES.

### **19. What new solutions or developments will you be exhibiting at CES? Beyond CES, what is Oregon currently developing and do you expect to have any major launches in 2006?**

[New solutions - see above...]

Oregon has undergone its major technology development curve in the past 2 years. In 2006, we expect the standardization to start happening with DLNA product certification launch and retail availability, Viiv PCs retail launch, CEA-2014 ratification.

I believe that we have created the internet connectivity technology that is universal in its application throughout device classes and content delivery models. We were pleased to see at CES that Oregon's approach is gaining significant traction, reverberating through the ranks of the internet economy: search engines, portals, book sellers and auctions have recognized the market potential and embarked on new strategies for selling targeted content and entertainment in an interactive TV-centric environment.

In the year 2006, Oregon will work on several bespoke name brand products, customizing its core solution to meet our customers' need for differentiation in functionality and consumer experience.

We are also planning to launch the next generation of Oregon's clean-room implementation of Macromedia Flash engine, taking it to version 7.

### **20. You were contracted by Sony Computer Entertainment Europe to provide your Internet and Media browser for the PlayStation 2. Will you be providing similar functionality for the PlayStation 3? Will we be able to see this at the CES Show in Las Vegas?**

We cannot comment on the future plans of Sony.

### **21. Your PS2 contract was for consoles sold outside the US and Japan. Why did they not use your solution for the global market?**

As a large corporation, Sony had different regional strategies for enabling access to online features.

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**22. If you are providing a solution for the PlayStation 3, is it still for territories outside the US and Japan, or is it a global solution?**

We cannot comment on the future plans of Sony.

**23. Do you have any major Korean customers? Can you name them and tell us about the products they produce with your solutions?**

In Korea, we are working with Celrun, a leading Set Top Box manufacturer who provides its solutions to Maginet, KT and SK Telecom.

**24. How important are content providers to your business model? Do you have any exclusive partnerships or other types of special relationships that give you a significant competitive edge in this area?**

Content services are the raison d'etre of Oregon's technology. In a sense, Oregon is developing the connected devices market, acting as a match-maker, bringing the content providers like CinemaNow - together with device brands and manufacturers.

**25. Can you tell us how your sales break down in terms of devices: e.g. game consoles, set-top boxes, phones, media servers...? Over the last 8 years, can you identify any general trends in adoption for different devices?**

Set top boxes represent approximately 23 percent of total sales over 8 years. The rest is in gaming consoles.

We think that this represents the trend in adoption of technologies to date. As we know today, home connectivity devices have seen limited success, which we envisage will gradually change through introduction of the home connectivity feature within the hybrid media devices. Based on available statistics, dual mode cell phones and IP-connected smart devices have the greatest prospects for high growth in the coming years, followed by gaming consoles and network-connected PVRs.

**26. Do you work closely with OS providers, such as Wind River? You mention support for a variety of systems, are they all equally simple to implement? If support is required from the OS provider, which companies are the best to work with?**

We generally work with the chipset vendors who, in turn, have direct relationships with the OS providers. We have a history of working on a variety of operating systems, but we are very much OS agnostic. Embedded Linux has an advantage in being royalty-free and widely supported by the developer's community. The majority of operating systems utilized by our silicon partners today are Linux based.

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**27. Can you say something about the proportion of OS development resources you have assigned to the different systems you support: Linux, µltron, Nucleus, VxWorks, WinCE, Windows XP, RISC OS, µCLinux?**

Oregan's software is entirely OS agnostic and therefore there is not a particular focus on any one OS.

**28. Your website does not provide any software downloads. Is it only possible to get Oregan solutions bundled with hardware?**

Windows PC-based evaluation versions of our software are provided on request to customers and partners, following their signing of an NDA.

**29. How often do you offer updates? How are updates handled (do you release patches or completely new versions)? Is it possible for consumers to update the software?**

We provide remote upgrades and updates of our software regularly throughout the product lifecycle. Updates are normally associated with software in development (maturity updates) or field updates for bug fixes - which can be made available to the end consumers through a brand manufacturer or service brand. The client software on the device is connected to an Oregan upgrade server which checks the client for consistency with the latest version during the device boot process. If updates are available, the client automatically connects to the server and downloads the updates via IP.

Upgrades, on the other hand, are available for new features through the same mechanism.

Upgrades and updates are delivered as patches as opposed to a complete "wipe-off" and replacement of the current version.

**30. What is the typical license cost for your software in a set-top box? What sort of monthly quantities are you currently seeing and how do you expect to see these grow?**

Oregan's pricing model is based on specification and volume and is tailored to individual customer requirements.

**31. Many Taiwan companies are now looking to launch set-top boxes and there are several companies already shipping tens or evens hundreds of thousands of certain models each month. How large do you estimate the set-top box market was in 2005 and how fast will it grow over the next few years?**

We expect current shipping volumes to grow by 200-300 percent year on year over the next 4 years.

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### **32. In addition to the launch of digital broadcasting and legislation pushing adoption globally over the next few years, what other drivers do you see in this market place?**

The content owners and broadcasters have their different preferred and trusted solutions for protection of premium cable, satellite and terrestrial content. Their realization of the value offered by IP delivery of content and acceptance of alternative Digital Rights Management solutions are the ultimate drivers or inhibitors in adoption of IP-delivered video.

Secondly, exclusive, pre-release movie or special interest content offerings will incentivize the end user to subscribe to IP-delivered channels.

And thirdly, the telecom carriers are compelled to deliver the "triple play", as their voice and data service margins are eroding. Delivery of video will also optimize and monetize the bandwidth utilization available on their next generation network infrastructures.

The primary driver for providing web-based entertainment in the Consumer Electronics segment is rapid commoditization and the need to deliver a new class of devices that conceptually and commercially tie with digital content.