



## **The value of Bandwidth and its impact on business models in Japan**

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*<<Greetings>>*

I think it's reasonable to observe at the outset that we operate in an industry which is rich in diversity. There is simply no "one size fits all" position for the question of bandwidth trading, let alone the associated question of whether it's wise for carriers to focus on buying or building infrastructure and / or providing services – all of which require significant investment.

Or even whether they should seek to cover both sides of the equation with some kind of compromise business model. More on that later.

Let's take a quick look at our environment in the year 2001.

Around the world, some 12 million emails are sent every minute of every day. More than 35 million voicemail messages are recorded every hour. And Internet traffic doubles every 100 days.

Regardless of the so-called "nuclear winter" for telecommunications, the demand continues to grow - albeit perhaps not at the rates projected during late-1999 and 2000. And that growth will not be anywhere more evident than right here in Asia.

The technology is already available to allow carriers to provide broadband “always on” connections for everyone. What’s currently lacking are the killer applications to stimulate demand sufficiently to make the provision of such connections economically viable.

There’s little doubt that users currently accept the situation where downloads are very slow, often because they’ve never experienced anything better. That situation is arguably an outcome of the current Internet business model being broken, possibly even to the extent that growth could be repressed as carriers become increasingly focussed on cost-cutting to meet the market’s expectation of EBITDA performance.

But it surely won’t be long before someone leads the way with applications and services which other service providers will then be forced to follow.

I am sure that, into the future, it will be the value of the applications and the quality of service delivery, to a wide and varied number of IP devices, that will drive growth - not only in megabit terms but, most importantly for operators, in real revenue terms.

Some pundits say voice has already become commoditised. If that’s the case, then how long will it be before broadband also becomes a commodity – or, indeed, will there be insufficient liquidity in the bandwidth market?

Given the successful trading of gas, electricity and power futures in the energy industry - and the perceived or real convergence and synergies with telecommunications - we have seen numerous energy industry players enter the telecommunications market to leverage three major strengths:

1. First and foremost trading – nearly all the power-come-telecommunications entrants have an extensive trading business in the energy sector, including extremely innovative financial engineering.
2. Ability to manage major capital assets.
3. Risk management expertise.

If we accept the argument that, ultimately, the telecommunications industry will follow the power industry, then these core competencies will be extremely valuable during the commoditisation of bandwidth.

If you then combine the high likelihood of industry consolidation, particularly in the international wholesale space, and the need for operators to work on core competencies - especially those selling to and servicing retail customers - then there is an opportunity at the wholesale level to move up the value chain. Having said that, it's also acknowledged that this is still a somewhat euphemistic term which, for many operators, could best be described as "a Utopian dream".

Nonetheless, this will, we believe, segment the wholesale industry into the "builders" and the service providers.

By way of an example, at Reach we describe this as "raw bandwidth" through to "connectivity services".

There are, of course, many shades of grey - but we believe that, in the wake of any industry shakeouts, carriers will tend to focus on one of these areas.

With connectivity services, the days of bilaterally-provided services, where indemnities and liabilities were structured very much as "buyer beware," are largely gone.

We now have an environment of service level guarantees, guaranteed delivery, end to end accountability and quality of service – all typically driven around application quality of service needs.

What, then, do the new world operators need to be successful?

1. Absolute focus on cost structures. Economies of scale will dominate the ability of operators to finance new services.

2. Strong network based products and services.
3. Ability to partner in order to provide seamless end to end global services.
4. Offer Service Levels, not just a facility for rebates.
5. Partnering to provide business enablement services such as security and systems integration.
6. Local market knowledge, for example selling wholesale Korea services to a USA operator.
7. Excellent customer support services.

When all that is in place, what will happen to the value of broadband? Will it become commoditised , or will it become so sought-after that carriers will be able to charge premiums for services?

Imagine the impact of going to your neighbour's house for dinner and discovering that they're using the daily weather forecast to automatically adjust their home climate controls (and cutting some 30% off their energy bill at the same time). How long would it be before you followed suit?

From a users' perspective, it is increasingly obvious that the maximum \$ per byte is gained from personalised point to point messaging services - and the lowest is for mass produced, replicated content.

Consumers don't want a multiplicity of financial relationships or portals that don't effectively reflect their own lifestyles. They want personal services that provide value.

We have seen success in using the Internet as a business enhancer, but the model is similar only the supply chain is simply more efficient.

It's generally accepted that voice will remain the killer application in many countries and regions for some time, but there are some countries in Asia – and Japan is clearly one of them – which look set to leapfrog into the data paradigm very quickly.

Already, we've seen giant strides in that direction by Japan – which arguably leads the world in the mobile internet space with such innovations as i-mode, J-web and now L-mode.

The Japanese government has made its intentions clear. It aims to lead the world in internet usage within five years and plans to achieve this via promotion of e-commerce, computerisation of the public sector, improving IT literacy, installing a gigabit backbone and introducing such innovations as high tech crime prevention and security of network and personal information.

Indeed, the Japanese market is already talking about 4G whilst still trialling 3G – and all this while most other countries are planning to make do with 2.5G !!!

A recent study by the Yankee Group found that the Asia-Pacific region is set to experience a leap in the number of Internet subscribers from the current 55 million to 192 million in 2005. That's an extremely healthy compound annual growth rate of 28 per cent.

But this is still only a penetration rate of about three per cent, so there's clearly plenty of room for more to follow.

And there's little doubt that increasing access to online services such as finance, entertainment, education, government information, retailing, manufacturing supply chains, travel and power generation will serve to whet the appetite for faster, easier delivery via "always on" broadband connections.

So what does this mean for the future of bandwidth trading?

Researchers, TeleGeography and The Yankee Group, agree that the establishment of pooling points, or neutral carrier hotels if you like, are the key to future success by bandwidth exchanges.

But we also have the recognition by Yankee as recently as December 2000, that most carriers are satisfied with their capacity acquisition models and have long-time relationships and established practices with major counterparts.

This appears to support the view that bandwidth exchange is a niche market to mostly service those new entrants which are not yet in a position to risk major financial outlays.

If the service model emerges, then it is likely that a wholesale business model based on buying and reselling bandwidth, especially if the operator is not part of the overall delivery, is fraught with danger and at the high end of the risk thermometer.

Certainly, it is important that these business models are based on margins of 1% to 1.5% - not 20% to 30%!!!

There is also talk of a bandwidth “glut”.

After four years of rapid build-out, the USA is now criss-crossed with a staggering 39 million miles of glass fibre – but analysts estimate that less than 5 per cent of that fibre is “lit”; in other words, it doesn’t have the electronics, amplifiers and software needed to transmit information.

CS First Boston took it even further and estimated that less than 1 per cent of the fibre in the ground is being used.

Those estimates have sparked much industry debate about a broadband glut and cast a pall over the US telecommunications market, pushing down stock prices and spooking investors.

Oversupply inevitably means falling prices, and those companies which elect to become pure bandwidth traders or network operators will do it tough – but those companies which elect to move further up the value chain will arguably be in a position to reap the benefits of lower supply costs.

Conventional wisdom was to build significant capability with very low costs of incremental growth; but we are now seeing more conservative approaches with people building on a variable cost-type basis, linking Opex and Capex wherever possible to real customer demand.

The successful connectivity providers will be those with the experience and resources to effectively and efficiently manage a complex web of relationships with local loop infrastructure providers and other global and regional connectivity operators.

They will offer a means of delivering traffic into interconnection points, rather than just the international gateway. And they will offer extensive switching capabilities, global network management, customer care, 24/7 fault reporting and support.

Most importantly, they will add value at the service level with a suite of innovative products and services that will help their wholesale customers grow their own business by being able to offer end to end connectivity to their customers at the retail level.

Reach has positioned itself to be a carriers' carrier – by offering value added connectivity as opposed to raw bandwidth.

We're confident we have the business model, experience, expertise and resources to be an attractive partner to other carriers and service providers in the emerging Asian wholesale data environment.

We believe one of the keys to success in the data paradigm is a highly scalable data-centric network, with centralised control for intelligent operation and management, and international connections to the US, Europe and throughout the Asia Pacific.

We believe our customers will be looking for network optimisation - survivability and availability, fast fault detect and healing mechanisms, dynamic network reconfiguration functions, efficient virtual path layer designs, and dynamic routing functions with inherent load balancing capabilities and a range of services that can be effectively marketed to their retail consumer base.

In short, a state of the art transport mechanism and support structure for an innovative portfolio of voice, data and IP products and services to meet the growing needs of end users.

Every industry player in this region is looking closely at the best ways to achieve its business goals, in what is arguably the most exciting and challenging telecommunications market of the new millennium.

It will be a market where new technologies, applications and business imperatives, such as those I've touched on very briefly today, are just part of the rich tapestry of the world in which we all seek to prosper.

Thank you.