



The COOK Report on Internet Protocol Technology, Economics, and Policy



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Offshoring in a Rapidly Changing Networked Age

A Case Study of Arcadia as a Talent Enabling Ecology Fit for Joshua Cooper Ramo's 21st Century World

Joshua Cooper Ramo, the author of a beautifully written and fascinating book, *The Age of the Unthinkable*, lays claim to a wide range of ideas in helping all of us cope with the increasingly rapid pace of communications and technology change on a worldwide scale. Ramo's goal is to set a new paradigm for the establishment and analysis of foreign-policy -- a breathtaking scope indeed. I think he hits the ball out of the park with a beautifully written eclectic overview of where "viable intelligence" is to be found. "Viable" as opposed to be peculiarly American self-centered variety that under George Bush led us into Iraq and so many other disasters.

My purpose here however is to use Ramo's ideas to introduce my Russian friend Arcady Khotin. I have been spending a lot of time editing the interview I did with Ar-

cady at his apartment in St. Petersburg at the end of May, an interview in which I asked him to recount the development and history of his successful and now 15-year-old 160-person-strong offshore software development company "Arcadia."

In addition to recounting the history of Arcadia, I asked Arcady, whom I've known since 1994, to describe the business models that have enabled him to be successful in a time of unprecedented political and economic change. Now, in overlapping the model that Ramo presents with the history of Arcadia, it seems clear to me that's what has made for a unique and long term viable enterprise is not Arcady's ability to program in machine language which he has done; or his ability to manage teams of people or his ability in many other areas but

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rather an ability that enabled him to survive in Soviet times. Rather than become a dulled and sullen apparatchik, he specialized in flexibility and then went on to make all manner of what he calls serendipitous connections with people in the chaos of the 1990s. These were actions that enabled him to coalesce people and resources around what is possibly Russia's earliest offshore software development company.

Ramo makes clear that the most successful spies,

On the Inside

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businessmen, entrepreneurs -- agents of any stripe on the international scene -- are those who are sensitive to relationships, contacts, and people in general, and those who have the ability to see the big picture and build a place for themselves without, in the more typical American, style marketing themselves as someone special whom the world must follow. Ramo suggests that being able to display a strong challenge for empathy in new and unexpected situations may be worth as much as the more traditional 19th century battleship or 20th century carrier group.

Arcady describes in the interview that follows not just an organization that offers skilled programmers for hire and writing code for some foreign purchaser but rather a company that is attuned to develop processes that put its operations within the customer's culture and within the shoes of its customers. To use the old cliché technical skills may be a dime a dozen but people skills are much more rare. Ramos describes a broad array of military, computer, economic, and intelligence challenges. His descriptions include the Japanese genius whose ability to do mash-ups of unlikely ideas yielded the Nintendo Wii. He also describes the way of perceiving the world that enabled Farshak the Israeli in-

telligence agent to serve out a full four-year term from 2002 through 2006 something that no other person in his position had done before. The common ability seems to be one of understanding in the finest detail the context that binds people technology and events together

Ramo describes an experiment in visual perception. The experiment compared American graduate students to Asian. And he comes to the very interesting and I believe true observation that the Americans visually seized first on the largest and most imposing objects be they animals, persons, fortresses, military-machinery, or what ever in the pictures that they were shown. When the Chinese students were shown the same pictures, their eye movements focused not primarily on the largest object in the picture but on the context in which it appeared.

My conclusion may be a bit premature and somewhat flippant because I certainly have no authoritative research on which to place it. But, having known Arcady for some 15 years and studied Russian history and culture, I find myself wondering whether a Russian offshore software corporations may have a strength in bridging the ability to see both the primary players but also to see them operating with in

the context in which they must play. I invite readers to contemplate Arcady's skill in developing a contextual understanding of the ways in which he needed to act to build his market ranging from being one of the creators of the first Russian software Association to creating his own executive search firm.

And to add a higher and more so-called ground level I find myself thinking of the Russian philosopher Peter Chaadaev who wrote in his 1829 philosophical letter

You would think that with one elbow resting on China and the other on Germany we would somehow have developed an ability with in our own culture to build a bridge between East and West and combine the strengths of both within that of our own country. Chaadaev's conclusion was bitterly pessimistic but I am wondering, if in this one case, almost two centuries later, Arcady can claim to have been successful - operating in effect with one elbow in China and the other in Europe.

Arcadia: a Case Study in Navigating the Turbulence of Post Soviet Russia

The Strategic Evolution of a Firm that is not a Body Shop But People and Internet Centric

From Radio Engineer to Internet Entrepreneur

COOK Report: How did you get started?

Khotin: I had a relative who was a radio engineer. When I was a young student, he taught me some basics and very soon I was assembling radio receivers and transmitters at home.

COOK Report: And you went to the Aviation Engineering Institute in St. Petersburg -- Leningrad at the time -- and got a degree in radio engineering?

Khotin: Yes. And I was immediately drafted to serve my two years in Red Army. It was tough but exciting at the same time. My unit was 60 km from Tallinn, Estonia, which we Russians considered to be a "foreign country" at that time, so every Saturday I was able to "travel abroad".

In 1972 I eventually returned

to civil life and went to work for one of many Research Institutes in St. Petersburg. I was hardware developer, building testing equipment that by modern standards was quite primitive.

COOK Report: I remember you telling me that while your work was interesting the culture and the environment was terrible: very bureaucratic, bound to a clock punching routine and consequently not productive. Correct?

Khotin: That was indeed the case.

After some additional training in the late 70s they told me: if you guys are not into microprocessors and into programming, in a few years you'll find yourselves on the street. In 1978 I took their advice very seriously and quit my job in the radio field. I started working for a company that was very much involved in software development and hardware and network infrastructure. These were all things that at that time had different names and were very much simpler than

they are now.

The change was very interesting and exciting one that took me all around Moscow and St. Petersburg to many very unusual places. I worked at companies involved in the development of the Russian space shuttle and on scientific experiments. And at the same time I found myself having a project with a company that was automating the production of plastic troughs for feeding cattle. From the exotic to the mundane, and a wide variety of projects that taught me a lot.

COOK Report: I remember you telling me many years ago that you were responsible for two programs in particular. One program that could monitor the temperature conditions of the chemical stuff on a conveyer belt and decide whether parameters were out of order and operation needed to be shut down. A decision that had to be made 15 minutes before a crisis point was reached. And that you learned the "chemical stuff" was some type of rocket fuel with features close to gunpowder.

And the other program being developed was to measure the ceramics cover stress between the part of the spacecraft facing the sun and the part in the shadow. I marveled at the complexity and asked you how it was possible with the computer hardware you had. You responded that because the hardware was weak indeed you wrote mainly in machine language or if you were fortunate you could use assembler.

Khotin: Yes it was good mental training.

COOK Report: What happened next?

Perestroika and Joint Venture Dialogue

Khotin: In 1989 I had a phone call from a guy with whom I had worked with earlier and who liked what I did. He invited me to become a software director for the St. Petersburg (Leningrad at that time) office of one of the very first Russian-American joint ventures in software development -- a company called Dialogue. We called it JVD.

COOK Report: So life from 1989 and on was better?

Khotin: Yes absolutely. It was the time of *perestroika* and high hopes. This company, Dialogue, adapted itself quickly to the environment of

perestroika. By 1989 Dialogue completed the metamorphosis into a joint venture with a registration number that was something like 14 - that is the 14th joint venture in all of The Soviet Union. There is lots of information about the Dialogue Joint Venture on the Internet even now.

http://findarticles.com/p/articles/mi_m0REL/is_n11_v89/ai_7911594/

<http://www.businessweek.com/archives/1992/b326368.article.htm>

COOK Report: So early in 1990 Dialogue took you to New York and Boston?

Khotin: Yes it was my first trip to the US -- exciting for me -- simply unbelievable. Work at JVD was very good and everything was fantastic except that we had zero business knowledge. This was the joint venture -- a Russian part that primarily supplied programmers and an American part that funded us and was lead by a guy named Joe Ritchie and his employee Jack Byers. Joe was from Chicago and involved with some kind of a stock exchange -- he is a fantastic guy -- I met him just a few times when visiting Moscow. Anyway, he gave us money. The problem is we had no business skill and no idea what to do and how to

use the funds so they were largely wasted. Some of the money went for luxury goods, other parts went for offices and a small part for business development. Unfortunately we had no idea how to accomplish that. But we were trying hard.

Our Moscow guys started working with Microsoft. They localized MS Word and other products. They also started dealership for several other Western IT companies. We in St. Petersburg were also very much involved. We built one of the first Bulletin Boards in Russia. We joined FIDONet. (In 1990 the Internet was not yet available in Russia). The Moscow JV Dialogue employees built almost the first node in Russia, we followed. They were numbered 2:5030/2, while we were given the number 2:5030/9 which meant that we were #2 and 9 in all of Russia!

Under these conditions, it was not surprising that by 1992, our software business in St. Petersburg had almost completely disappeared. I decided that I would quit and start something on my own. So for a year, beginning in 1992, I took a job as an assistant professor at a campus of one of the universities in St. Petersburg. It paid a tiny salary and the work was not interesting and I was not happy. However, there was one thing that gave me an

extraordinarily important advantage. At this university I had free access to the Internet. In early 1992 this was an amazing luxury.

At that time one of my friends gave me a small laptop computer. Consequently, in the daytime I was teaching, while in the evening I was using computers and Internet at my office and at night browsed BBS world from that tiny laptop with just small floppy instead of HD.

One of my discoveries during 1992 was *Boardwatch* magazine edited by Jack Rickard. At that time I was discussing business opportunities with Jeff Bennett – an American with whom we still cooperate and are friends. On one of his Russian visits in 1992, Jeff brought me a copy of that magazine.

***Boardwatch* and Communicating One to Many**

Ever since 1989, when I was working with JVD and later when I was trying to start my own business, my idea was to communicate with anybody who would be able to bring me business. I tried everything - *Boardwatch* was just one of the channels. I tried to contact them and get some publicity from them. Toward the end of 1992 I emailed

Jack Rickard the Editor as the President of the St Petersburg Clipper User Group. I told him how much I liked *Boardwatch* and that Esther Dyson had given us a free subscription to *Release 1.0* and *RelEast*. I asked if he would do the same for *Boardwatch* saying I would write him a column on events

in Russia in return. In his January 1993 issue he published my email and agreed.

In his May 1993 issue pp. 75-76, Jack published the lengthy report on BBS and internet in Russia that I had promised to send him.

My understanding of publicity



Arcady and Larissa Viktorovna (Khotina) outside Mariinskii Theater Sept 26 1994. First row orchestra opening night seats were \$5 each.

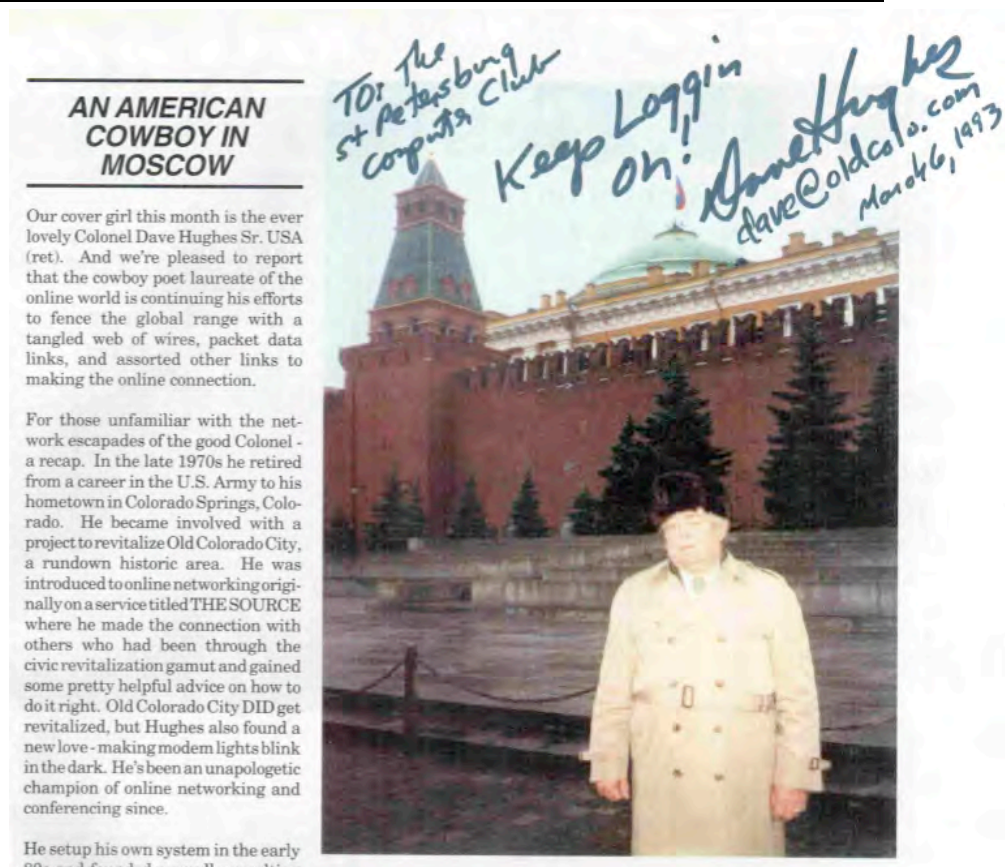
was trying to get exposure. Consequently, somewhat earlier I had written a letter to *PC World*. 400,000 subscribers and one letter of five lines. Eleven responses - zero business. More than 20 responses from the first *Boardwatch* article in January 1993.

COOK Report: I made my first visit to Andrei Sebrant and stayed in his apartment at the Red Gates near the main Moscow railway station square in April 1992. In September I visited Andrei again and this time Rickard sent me over with a new 9600 baud modem for the St Petersburg Fidonet chief and some *Boardwatch* copies.

Dave wanted NAPLPS programming done. I put him in touch with Andrei whom he visited in November 1992 and hired at \$100 a month. Dave sent Jack a picture and report which he published in his February issue. Then Hughes returned in early March 1993 to pick up the NAPLPS code.

Khotin: Yes and having just received the February issue with the page shown above, I decided I had to meet this American Cursor Cowboy and took the over night train to Moscow for a six hour meeting before having to go back to the train station to return home.

At the end of 1993 I also



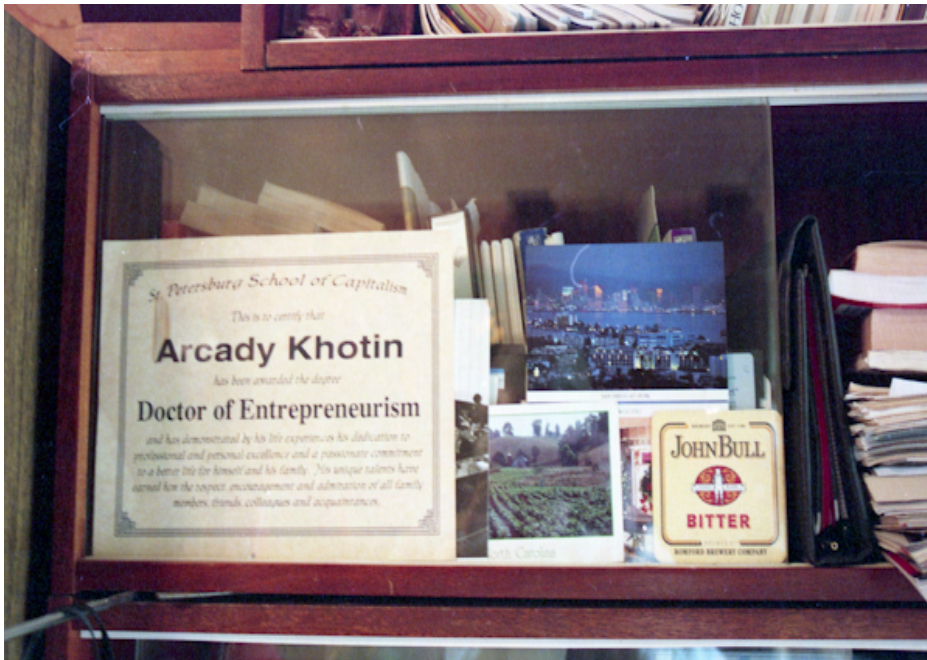
contacted *NBC Nightly News*. I followed up on an idea was sent to me by one US friend made while I visited US first time. He suggested that I send an email to NBC Nightly news where they might actually read it on the air in the evening. It worked - Brian Williams read on the air. Click on this URL to listen http://www.offshore-software.ru/fl_movie1.htm

December 1993 - Brian Williams: "for those of you who have access to the Internet we invite your comments. Our Internet address nightly@NBC.com - no spaces - we look forward to hearing from you. in the two days that we have been broadcasting

this address, we have received more than 3000 messages from across the country and around the world from places as far away as Australia and Istanbul. Most were about our series. One however was different. It was addressed -

**To: All of us.
Subject: From Russia with Love**

Dear Americans, My warmest seasons greetings from St. Petersburg Russia. Please keep up your great work in helping us to dig ourselves out from the deep hole that we got into about 70 years ago. I am sure it will be



Arcady's Doctorate of Entrepreneurism from St. Petersburg School of Capitalism also known as "Schwartz University"

rewardable for both nations. Cheers. Arcady Khotin

I got about 40 answers - zero business...

COOK Report: Wow! So that came from a series of events kicked off in part by my own interaction with Rickard and Hughes in 1992 and it explains how my friend Dave Hughes, the old cursor cowboy, found out about you! Amazing! The odds of that happening are certainly tiny. What caused you to send it off to *Boardwatch* and to NBC?

Khotin: I think it was just serendipity. A chance inclination that paid off. And when it did, I sent an offer to Jack Rickard that I would send him an article about online

life in Russia if he would print it. It was one of these articles that Philip Schwartz in Gainesville Florida read, in late 1993.

It turned out that we were same age and had similar interests in many areas. Phillip and I began a very heavy e-mail communication over a period of weeks and then months and now even years. I was asking him tons of questions about how to do business. We called that email stream Schwartz University.

This was possible for me to accomplish in part because of the time shift. I would

take care of my daily affairs and then send him e-mail. He would be up and running in Florida by late afternoon my time and we would exchange three or five or even 10 e-mails in a 24-hour period. He was extremely helpful he sent me the modem, then a laptop, and then invited me over. He gave me invaluable help in developing my early business.

COOK Report: And that first laptop he sent with me right?



Arcady at the New Jerusalem Monastery northwest of Moscow May 14 1994, where we went sightseeing after he picked up his new laptop, I spent much of the day telling him everything I knew about Dave Hughes' Roger' Bar.



In Moscow Arcady receives his Scwartz University laptop at the apartment of relatives of a neighbor of mine in Trenton NJ.

Khotin: Yes.

COOK Report: I remember it was the beginning of May of 1994 and I was coordinating with you my arrival in Moscow and you told me about his existence and asked if I would be willing to carry the laptop over and of course I said yes. He FedExed it to me and got it to me about 48 hours before I left. When we met in 1994, I think you told me you had three employees?

Khotin: Yes. The three were all Jeff's guys.

COOK Report: Please take me through the events of the next two or three years.

First Customer and Comdex

Khotin: Business was rather slow. My first paying cus-

tommer was a man named Jeff Bennett from Jericho, Long Island. This is the same Jeff who brought me *Boardwatch*. You and I visited him once. I opened a St. Petersburg office for Jeff. All people were his employees when we started. I was lucky to find very bright fellows. Two of them left us after a few years, one started his own (very successful) company in US, another one became a freelancer, also is very successful and manages to spend winter on Cyprus and summer in St. Petersburg suburb known as Pushkin. Two other guys are still with us, working on Jeff's projects since 1994!

I was flexible and had a lot of energy. I wanted to explore and, since my hands were not tied, I started looking for other customers. The arrangement with Jeff was keeping me afloat. However

I wanted more and thought I could do more, so I started looking for new projects and I was successful in getting them here and there. Sometimes interesting, sometimes not so interesting. Living standards were so low in Russia at that time, that I was able to charge \$150 a month for a good programmer. No wonder it was attractive! But "offshore outsourcing" was a bad word at that time. Consequently selling our inexpensive brain power was still a challenge.

COOK Report: Did these new projects come from the friends of Jeff or those of Phil?

Khotin: Unfortunately not. Primarily just through wide reading on the Internet and sending many many individual e-mails tailored toward a specific situation and offering service. The idea of spam was just becoming known and I took of course great care to avoid being perceived in that way. Primarily, I would read articles in *Computerworld* or BBS message boards and see the name and e-mail address of the author; send him e-mail about the article; get in a conversation and then offer my service. I was not asking. I was offering service -- volunteering to do some things for free with the idea that if they liked them then perhaps I could do them for pay.



Arcady's first MacIntosh in 1996 in his fifth floor walk up former Soviet communal apartment located only 100 meters from Nevskii Prospect.

COOK Report: How did you convince them to pay you?

Khotin: it was difficult. My business English at that point was almost nonexistent. I had no idea about how to speak at the terms of payment. I had no idea of the concept of things like retainers. My Soviet mentality did not allow me to ask. I was waiting for them to offer, that it was not very good because when someone asked me how much I wanted to be paid for this activity, I had no idea how to arrive at an appropriate figure. I began to ask Philip for help and advise which he began to generously offer me.

In trying to price a small project I had no idea how to say it would be about \$500 or it would be in the lower hundreds of dollars. Philip had software development experience and he was very good

in helping me formulate proper estimates.

COOK Report: This was happening then in 1994 when I met you for the first time in May and in September of 1994 when I visited you in St. Petersburg for the first time?

Khotin: Yes.

COOK Report: Consequently in 1994 you began to get educated in business economics, statements, invoices, price negotiation terms of payment and so on? What happens next? You visited me in New Jersey in 1995.

Khotin: My first real income came from customers in the United States and I hoped to get more. Philip was kind enough to send me the laptop and offer much advice and he suggested to me that

I go with him to the Comdex computer show in Las Vegas in 1995.

COOK Report: You went there in marketing mode?

Khotin: Yes for the first time I had a proper business card. For me it was a real eye-opener. I understood that America was terrific and wonderful country but all so I realized that it was very very far away. By 96 my business was demanding that I fly back and forth to America as many as three times a month and it began to become really tiring. I understood by 96 or so, when I had a going concern and profits for further investment, that I needed to look closer to home in order to establish a sustainable and stable business.

DataFellows and Getting Some Geographic Focus

With my first real profits, I took my best developers and went to Finland and took part in a seminar called "Visual Basic for the Internet" given by a Finn, Otto Burman. Otto invited me. I had no money to pay for his seminar but I said look if I can make a presentation, will you let me in? He said sure. As a result, my best programmer and I went to Helsinki in 1996. My first impression was that, if you do not pay

attention to the architecture which is very Russian, everything was like the USA. Everything is available, people are smiling at you, everything is clean and safe and the society seems to really work.

We went to the seminar and spent six hours listening to presentations in the Finnish language and then we made our own presentation and English. People were complementary and I thought "wow, we will get some projects" but we returned back to St. Petersburg and nothing happened. I definitely had raised some interest but I had a zero marketing skills including a lack of understanding of how to follow-up. I even went without business cards. They said we will send you something but they did not even know my e-mail address. I was still a very inexperienced person.

I was still learning. I received valuable help from Esther Dyson whom I had met during the joint venture **Dialogue** days. She gave me free ticket to her High Tech Forum Europe in Amsterdam, 1997. A year later I was able to pay for my visit to High Tech Forum Europe in Stockholm 1998, and after that to High Tech Forum Europe in Budapest 1999 and High Tech Forum Europe in Barcelona 2000.



Arcady and Philip Schwartz in May 1998 in front of the grave of Nikolai Rimskii Korsakov

These meetings were terrific exposure to *real* business with people who were in the middle of everything. Listening to them, speaking to them, seeing them helped me a lot to dare to drive Arcadia on an upward path.

COOK Report: And meanwhile when my major contact at the National Science Foundation was unable to give me Ira Magaziner's email address and you told me that Ira was speaking at Esther's 1997 meeting. I asked you to met

Ira and get his email address. You did and for the next two years I was very much involved in things ICANN through Ira. As the cliché goes - fate works in strange ways.

Khotin: True. Meanwhile, back in 1996, I had a number of ongoing projects including some work for Microsoft that Jeff Bennet gave us. I had a few customers on my own as well. There was one fellow in Boston who, when I came to the US, gave me a Macintosh to take back to develop his software. I brought it back, hired a Macintosh programmer in St. Petersburg and we developed software for him. The same was true with Jeff. I had no computers initially, but Jeff sent me three computers so that the

guys I would hire would be able to do the work he needed.

After the visit to Finland nothing happened for three or four months but then I got an e-mail from two friends, Risto and Ari, who said they wanted us to do something small for them. We did. They gave us more work. The relationship grew steadily and fifteen years later we are still doing major work for this company which, at the time, was known as Data Fellows. The company is now called F-Secure and, during the .com boom, the company went very high and made lots of money. It has never looked back. It never crashed.

COOK Report: I remember you were telling me at the

time you were hopeful of getting some kind of partnership that would allow you to share their good fortune.

Khotin: Despite the so-called wonderful "experience" that I was telling you about, I did not understand that I needed to ask. This is my Russian mentality. I have learned now that you need to ask. But at that time I would look for them to offer and if they did not offer I would not ask. And of course why would they be crazy enough to offer me stock for which I had never asked?

Getting back to the original work for DataFellows which was very exciting, I found that all their people were very bright and skillful. But I also came to understand that I needed to establish Acadia on a proper professional level. I was getting useful feedback from Philip Schwartz as well as from a guy named Ted McMahon from Boston University. Ted came to Russia to teach English and I was using him to teach my programmers English. I hired him to teach me how to write better business letters in English and I took them with me once on a trip to Helsinki to help in my negotiations. The problem was that salaries were rising and, in order to pay them, I had to re-



Acadia Offices in 1997 as "Mom and Pop Shop"

negotiate my agreements with my customers almost every year. As you understand, renegotiation can be a very difficult process. You need to be very adept to deliver the necessary message. The problem was English is not my native language

Consequently, both he and Philip have visited F-Secure in Helsinki and helped me negotiate with F-Secure. By the way, later on Ted made great career in Russia, he was the one who helped to build one of the biggest retail chains in St. Petersburg called "LENTA".

COOK Report: But Philip visited you only once so far yes? It was in May of 1998 and the end of my visit overlapped with the beginning of his?

Khotin: That is correct. He and I went to Helsinki shortly after you returned home. I think I owe our success to serendipity and to Philip and to the luck of having some early good customers like Jeff Bennett and F-Secure.

I want to stress that F-Secure is an outstanding software company – one that is very good at business processes and project management. Observing how they did things became like a finishing school for us. We emulated them. You have someone running your network infra-

structure. I must do the same. You use accounting software I must also do the same. As time passed, I learned lots of things that were really a by-product of living in Finland with a normal Western business environment.

Being Paid in Dollars at the Time of the 98 Ruble Crash Allowed Us to Grow Up as a Company

At the beginning 1998, we were still a mom-and-pop company. It is true that we had four or five important and relatively long-term customers. We had 40 or 50 employees but we had no clear idea of where we were headed in the future. However that August there was the Long-term Capital Management crisis and the Russian government default and in one month the ruble went from 6 to 30 rubles a dollar. It was devastating for many Russians but because all our customers paid us in dollars all of a sudden our income went up 500%.

COOK Report: And this included the Finns? It was, after all, before the euro and they were a world company



Sergei Baklan Managing Director, Arcadia

so they would certainly have plenty of access to dollars.

Khotin: Yes that is correct. One of my old friends Sergei Baklan was working for his aviation company. (He took you to Novgorod in September 1994.) I was fortunate to be able to persuade him to come to work for us. I offered him a share in the company and he has become Managing Director of Arcadia. Another fellow whose name is Vlad Voronin was also working with a different software company in the local market in St. Petersburg. He came to me offering to work on quality control. I was not sure we needed it. But quality management is a mandatory part of every company with serious business practices. And Sergei recognized how important this was.



COOK Report: Is this is focused primarily on code testing?

Khotin: No. It is much bigger than that. The idea behind quality management is the establishment of company-wide quality goals covering every aspect of your company's life. And then you manage them by empowering people and you discuss with your management what we have to do to reach those goals and make these goals our own goals as well as the goals for the company.

COOK Report: This is like ISO certification?

Khotin: Yes - the goal was to become certified and have quality objectives and standards in place that matched international standards. Most value of certification is that it is confirmation that you have reached the objectives you have established. Consequently, with Sergei and Vlad in place we completed ISO certification around the end of 2002 or the beginning of 2003. That transformed our company from a mom-and-pop shop.

The Formation of ARCADIA ++

But let me turn back to



Professional Team Building - Arcadia Annual Party in June 1999

1998 and 99 when the Y2K problem was being very forcefully articulated. Of course we understood the issue and wanted to get a piece of the action. We wanted to get work not only on the international market but also within the Russian market. As a result we started to learn who is active in the Russian market and became familiar with several other local companies. Before this time, we had never even thought of looking at any domestic market – it still was non-existent.

Our search brought several quite unexpected results:

- Time to market was very important, even in Russia. We were late and the niche (very small one) was filled by a number of very decent local companies. We got to know each other and later on created an association. More about it below.
-
- We have noticed great opportunity with serving companies with employee and executive search.

Now in 2000 with the resolution of the Y2K problem, the demand for programmers stayed quite high until 2001 when the .com crash brought it down. And in 2000, with

high demand from the West our people started leaving us and finding employment in the United States. As we were now part of an association, we had a window that allowed us to see that the same brain drain was happening across all the members of our association.

We saw an opportunity in the situation and started a subsidiary company called Arcadia ++ that functioned as an executive search and software developer's recruiting agency. We would say to programmers: if you want to go to the US we will help you to get there. And it rather than fight the inevitable trend, we will earn some income from it. But our timing was not good because by the time the recruiting company was officially formed and we had created and populated a database, and you have the .com crash and the demand disappeared.

Nevertheless, we decided to make the most of the situation because executive search companies can make some money. And, as a result of what we did almost 10 years ago, we have this small subsidiary where several of our key employees are shareholders. We use it as a retention instrument. Namely, while you are an Arcadia "key employee," you are given stock in this recruiting company and have a

chance to benefit from its success as long as you continue to work for us. If you leave, you will have to sell the stock back to us.

COOK Report: How did you get business for the recruiting company?

Khotin: Word-of-mouth. Personal meetings. Friend of a friend. Web sites. Nothing special. We tried advertising several times in some newspapers and found generally that it was useless because we would have to spend a really big money in order to get results. Word of mouth, we found, worked much better.

This is how our recruiting efforts started and nowadays we have around 200 potential clients who return to us from time to time looking for people. Of course we touch base with them and have about 30,000 CVs in our database. As a result, quite often when someone wants a specialist, we can dig through our database and find a few good candidates.

COOK Report: This gives you some added cash flow then? What percent of your overall business you think it would be?

Khotin: I would say it contributes between about two and three per cent of our gross revenues. But it is not

just the money that it brings in. There are other ways in which it adds value. It gives us a competitive advantage. This offers us a lot of information about prevailing salaries and specialties in demand. It is a window into the labor market. And sometimes we even print and sell small reports on the salary situation in St. Petersburg in various areas of IT.

RusSoft - Russian Association of Software Companies

As I said earlier, 1999 brought us a lot of new challenges and opportunities. We found that we had a bunch of very nice people around us running very decent and good companies who were in the same boat as we were – running outsourced software projects coming from the West. We started meeting with them and exchanging ideas and eventually Arcadia and nine other companies founded on September 9, 1999 an Association of Software companies. We gave it the name FortRoss. We thought that everyone in US would know what it is (first Russian settlement in Northern California).

COOK Report: Is it still called Fort-Ross?

Khotin: It is called Russ-

Soft. And it is not just St. Petersburg but it covers all of Russia now. And companies in St. Petersburg and Moscow and in Siberia and all big players from Ukraine and Belorussia. Over all more than 80 companies now

COOK Report: So you started with ten and grew to more than 80?

Khotin: Yes. We had more than 80, when oil money started pouring in, some of the companies turned 100% of their attention to local Russian business and left. Some of them are returning back now. Shortly after you arrived here this time I had to leave you for part of the evening and attend a board of directors meeting of the Association.

Having RusSoft was very useful. We learned how our friends operated their businesses and shared experiences. Our next step was to organize a group of three or four companies and to travel together in marketing mode to Finland and Sweden. For these trips will try to organize meetings with 10 or 15 local companies. Aside from the general marketing of our services, one of our goals was to try to get some publicity and recognition for Russian IT and Russian software.

It was important to do this because, at that time, there

was a very commonly accepted feeling that Russian companies and programmers simply did not respect intellectual property and pirated software when it suited them to do so. And furthermore, that Russia also had an unstable economy and government.

We made many presentations and once even went to Washington DC and appeared before a committee of the United States Senate. . I remember my amazement when in my search for Men's Room I saw a plaque on the wall saying "Senator Edward Kennedy" and saw this white haired guy inside the office. Eventually our message was heard and we received useful publicity.

COOK Report: As a member of the Board of Directors of this Russian Software Association, it seems like this position must enhance your business capability?

Khotin: It does indeed. For ten years now the Association has been run with the same president with which it was founded. The president, Valentin Makarov, whom we selected back in 1999 had been deputy to Mr. Putin during the time in the 1990s when Mr. Putin was deputy to Anatoli Sobchak the mayor of St Petersburg.

COOK Report: So your first

president who is also now the current president came to you with his hands on positions of power?

Khotin: Absolutely. This guy had all the important contacts in city government and regional government. And he also brought to us the understanding of what we needed to do with the RussSoft -- namely to lobby the interests of the emerging Russian software industry with the Russian government and getting a clean image of our services in the West.

In September of 1999 we were 10 different companies and we were not together. Valentin helped us to form a more common vision and outlook and a more uniform approach to the world. He helped us to understand what an Association can do for us and he still works very hard.

Presently he is doing this lobbying and he is meeting with ministers of the Russian government in order to raise the visibility of our association to the level where we can speak to ministers and to Duma deputies and make our opinions heard. On June 10 we will have an annual meeting of our Association where we will be addressed by a deputy minister. Not as a Potemkin village but with a real opportunity to discuss what we can do for our country and what our country can do

for us.

Arcadia's Evolving Business Model

COOK Report: Tell me about your business model and how it changed over time.

Khotin: We have several closely linked business models. Business model number one was with Jeff and similar partners and it is so-called cost plus. Under cost plus Jeff was paying all the costs of running the business plus a small additional percentage which is our profit.

The second one was called "time and materials" where we are paid for time we have spent at agreed hourly rate plus possible expenses. The third one could be called "fixed price". We rarely take projects at so called "fixed price", we always look for long time cooperation. In reality, we often use a combination of both.

As far as the recruiting company went, we would just charge a flat rate. The rate would be 10 or 15 or sometimes 18% of the annual salary paid to the person hired.

COOK Report: So with Sergei Baklan onboard you were developing a more strategic approach?

Khotin: Yes, but I want you

to understand there was another very important person named Vlad Voronin. He came to us and helped us develop our quality management system and took us through the ISO certification and then moved on to Moscow to another company where he fills a managing director role, very similar to that of Sergei Baklan. He is now a competitor but a good friend at the same time. Probably, only in Russia!

I am happy to see that these guys who work with us not only contribute to the quality of our work but on occasion when they leave they seem to have always learned well enough with us so that they can go out and do very well on their own. Something that shows that these guys are sincere and I value that evidence very much.

COOK Report: Cooperation and collaboration -- critical evidence of what makes the Internet really work.

Khotin: It is true that even though we compete with each other, we also help each other out.

COOK Report: It seems this attitude is necessary for survival nowadays.

Khotin: Yes.



The Pushkin House building that houses the Institute of Russian Literature on Vasilevskii Island

Oil Money and the Domestic Market

COOK Report: Tell me a bit about how the window opened for domestic producers.

Khotin: In 1993 I would have rather worked for Russian customers because my English and western business knowledge was almost non-existent. But there was no demand for my services in Russia. There was only a handful of companies working in the local market which was very small. As the 90s wore on I was very much into off-shore work and of course, not so much interested in any local market. This was a situation reinforced by the perception that any local market operation was really governed by corruption. And

indeed, even if your software services were the best, you really could not hope to sell anything unless you were able to pay some kind of a bribe to the purchaser. Kick-backs were ruling the decision making process.

Now when Oil money started pouring in the local market started flourishing and a lot of demand appeared. I was focused abroad and a bit late to catch up on these developments. I do have however a small project with the Institute of Russian Literature at the Pushkin House.

COOK Report: *Pushkinskii dom*: wonderful! That's where I got my microfilm of Chaadaev in 1970. But to return to the subject by 2002 when the shift occurred your skills were focused on off-

shore issues rather than domestic.

Khotin: Yes. I need to implement a different approach I see that there are a lot of niche areas in the local markets that are unfilled.

COOK Report: Do you see this through your contacts in the Association or through your recruiting business?

Khotin: Also everywhere and in all manner of meetings and discussions. To make a serious entry into these niche areas requires a lot of money which I don't have. We still live much more hand to mouth than I am comfortable with. But now for the second year in a row I am trying to implement another idea. Namely, to work in markets in Sweden, Norway Finland and the US which already have solutions.

COOK Report: You mean solutions to the things that are niche areas here?

In Scandanavia a Niche Market Product that Can also Be Localized for Russian Domestic Market

Khotin: Yes. So my idea now is that I will try to match



An Arcadia programmer's office in May 2009

them. I will add to my sales pitch and when I knock on the door to an existing Nordic or US customer or begin discussions with a potential new customer I will tell them look not only can I help you with problems within your own markets today, tomorrow we can function as a sales and support and localization and implementation force for you in Russia because what you are doing for you is an existing unfilled niche there.

I can give you an example. We have a Scandinavian customer who comes to us for software development for survey questionnaires. The software behind it -- like artificial intelligence -- allows you to find some controversy in the answers as well as allowing you to have a better idea of what the person was really thinking. Are the sur-

vey results a really accurate reflection of the survey goals? So the company that I do this for has asked me to look around and see if there may be some Russian customers that might want to use this project for CRM customer relations management and sales management follow-through.

We have discussed the idea that we could help them localize the software for the Russian market by giving it a Russian language interface and other appropriate changes. There is also an interest in the development of a plug-in for the CRM software which will permit them to get information as to salary desires and concerns they find and bring it back and plug that in to the CRM software. So this is what I'm doing. I am speaking to various

CRM guys and helping my Scandinavian customer to move its solution into Russia.

COOK Report: *Hah! What I am seeing more and more is your extreme versatility and ability to synthesize opportunities. You are definitely the Fox who has a high-level understanding of the universe and know how to bring many different parts and opportunities together to create value rather than just staying stuck in one or two specialized silos.*

How would you describe your customer mix? You have several foundation customers with which you been working a long time. One being F-Secure in the antivirus software area.

Corporate Culture and the Offshore Development Center Business Model

Khotin: Let me begin to answer you from a slightly different point of view. I love the metaphor that if you look at a sheet of paper from the edge you see just a very tiny line but that if you look at it face on, you see the entire thing.

If you look at my business from this angle we have 10 similar units within our company. **We call them offshore development cen-**



Arcadia Managing Directors Office - May 2009. Plaques are professional program certifications.

ters. We consider them to be extensions to the research centers out our customers - or to the customer's production facility.

COOK Report: In other words, you are selling something far more than just help on a specific programming project? You are selling a long-term relationship and the ability to have your employees integrated into their business to an unusual extent?

Khotin: Yes. And from the other angle it is very similar: all work is based on time and materials. The more time we spend, the more time we charge the customer.. This is a simple business model where you multiply an hourly rate by number of people and

the product of that calculation is what you Bill.

COOK Report: And your ISO quality management in effect says to them there is a certain roadmap that you have pledged to follow and that will be a common roadmap that is understood by both parties?? If I am your customer, in effect, we will both be on the same sheet of paper so to speak and understand our mutual obligations. Is that the way it works?

Khotin: Yes, but if you turn the paper face on rather than on the edge, you will see a lot of differences. We have a different situation with each long-term customer. For example, there are several guys who work continuously for Jeff Bennett. He manages

them very directly and with no obvious order. Pulling the strings, he tells them: do this, do that. And we have no idea what to do over the course of the month. We call it "the taxi driver offshore development center." Turn left, turn right. But those people are not very happy because they have no idea where they are going in a month or in six months or a year. They don't grow. Instead, they go day-to-day, week-to-week and month-to-month without a recognized career path.

Next there is Data Fellows now known as F-Secure. They are tightly linked to us and well integrated. This week we have five Finns on-site in St. Petersburg. A few weeks later, all of our staff who work for them may be in Helsinki. Then, they may be sent all the way to Microsoft in Redmond Washington for a conference. *With this particular company what makes this possible is not due to ISO or anything like that. Rather it is company culture and company business processes and quality management.*

COOK Report: Consequently, as you work in a major way with five or six different companies I gather you have to get a highly accurate



Microsoft Certification at left in May 2009

understanding of your customer's culture and business processes in order to work with them to the point of maximum effectiveness.

Khotin: Absolutely. You need to learn your customer's culture and business processes. And on the one hand this is difficult but on the other hand it is positively exciting. I have come to understand that in a company like F-Secure that has some of the best processes I've ever seen.

We work and we learn from our customers. Someone inside Arcadia can be moved from one unit to another and tell his buddies and customers of this particular group: look this is how it should be organized. And they will be extremely happy and say "wow, these Russians know more than we. They will tell

us how to organize these processes so they will work better than ever before."

This is a value which we bring to our customers because across these groups everyone wants to be the best of the best. In effect, we learn the state-of-the-art from working with F-Secure and others and then take back that learning – translate it into in general processes and apply it to our other customers. Some of our big corporate customers also has something to say about the process we offer them to implement, which we translate in our relations with F-Secure. And everyone is happy.

Everyone of our customers has its positive sides. We use all of this learning to cross fertilize our customer processes so that everyone benefits. **I want to stress that**

what I am talking about has nothing to do with technology but rather is a people and business processes model. More people than anything.

COOK Report: So this is a serious advantage of an off shoring business? You see different cultures among your customers and can choose the strengths while ignoring the weaknesses.

Knowledge Transfer and Quality Management

Khotin: Absolutely. And you can share what you learn. People pay you to be a good contractor and you learn and then share what you learn with others about the best ways to get the job done. Of course this is very very difficult to do right. **This knowledge transfer is the responsibility of the quality management group within our company.**

Sergei Baklan and the people around him are responsible for doing this. This is our strong point and our differentiator from our competition. You give us a project and we will do it like any other guy. But this other guy never had more than 10 years work for

F-Secure or a similarly long period of collaboration with Johnson & Johnson or other big corporate customers and can not see 10 meters deep to anticipate all possible problems and have them solved before they arise.

COOK Report: Let's assume that I am a potential customer and I'm sitting down with you. Explain to me please how we might agree to work together.

Khotin: When we start with a new customer, it is always with a pilot project to which we assign the employee with the needed managerial skills to get it done. If we win customer's confidence and get the project, then all infrastructure required by project implementation is created around it – people, hardware, software, security issues, reporting, business, invoice structure – even door locks if needed.

From that day one we have a “project starting” process. No project starts without a name and number and all the



Arcadia Group Area --library kitchen and exercise machine - May 2009

proper records in our file system. The system is well structured. It explains to its users that this is where you will keep your source code. This is where you will keep bug - tracking software. This is where you will keep

your reports. This is the mailing list that you will use for the software developers. This is a different mail list that you will use for business related discussions and problem escalation.

COOK Report: And it is this framework that you were able to build because of the '98 crash putting more money onto your bottom line?

Khotin: Except for a full time accountant, myself and a system administrator, this was the first time that I would hire someone whose hours are not directly billable. In '98 I was able either buy a Jaguar for myself or hire Sergei and Vlad and pay their salaries for long time through overhead. Since then, the initial investment has been returned multiple times with quality management results and helped us to convert Arcadia to serious business from a Mom and Pop Shop.

The fact that we are well-organized in this manner impresses smaller players and likewise **larger clients understand that we understand how things are done in the major leagues - in other words that our business processes are likely to be similar to their own.** And secondly, because when we start a project the proper way we are able to assign and send an outstanding project manager to each new customer.

But no one is perfect. I told you once a little bit about something that happened about five or six years ago with a Scandinavian client where one of our project

managers fell down in his work and in his reporting. And he was not doing a good job and where we did not find out about this immediately. We did find out however and got the project back on track in a few weeks taking the necessary expenses to do so of course out of our own pocket. The key thing is that this same customer works with us from that time until the present and we hope for many more fruitful years of cooperation.

<http://www.infoworld.com/d/developer-world/russia-outsourcing-deal-points-lessons-learned-335>

As far as our technology focus goes I would describe us as being a top notch specialist in major technologies on the Microsoft platform. Windows, both desktop and servers, and other application software for Microsoft. And even within these areas we are strongest in certain specialty subsets. **But overall our strongest point is people management, project management and business process organization because this is the most important part.** We call it PPP – People, Processes, Projects. When you want to organize an offshore software development laboratory for your business, you want the operational and business processes of the laboratory to match those of

your own Corporation.

What exactly you want us to do by way of software development is usually not that meaningful. Code, quality, knowledge - this all is taken for granted. Nobody will give us work if they do not believe we can do it. *But can we do it the way they want it to be done?* Communicating - emailing, answering, making jokes, smiling - the same way the guy across the corridor from your office would do it. We need to create that feeling in you that we are good; that you can trust us, and that we will not let you down. Now, if you want some very specific skills, we can supply them. And of course while we will develop what you are looking for, what we will also give you is people and a development process that can be finely tuned to operate in a way compatible with your own internal standards.

If we are looking for someone with specific skills for you, we will either turn to our recruiting company to accomplish that, or we will find someone and train him or her in a way that should be valuable to you because he will not only learn the needed skills, he will also learn how to accomplish them using the business processes that are compatible with your organization. *So over all we would describe ourselves as specialists in catering in a very fine tuned*

and detailed way customer needs on Microsoft platforms.

Arcadia Customer Base

COOK Report: How many foundation customers -- sizable long-term ones -- do you have and how many niche customers?

Khotin: I think we may have one or two smaller customers and about seven large ones. One is small. This is Jeff Bennett who started in 1994. Among the largest is F-secure since 1996. As big, or even bigger is Aditro. We started with them in 2000. (It used to be called TietoEnator and it is described in the link listed above). It is a consulting company with clients all over the Nordic countries. They specialize in human resource management and in salary calculations.

COOK Report: And the others?

Khotin: There is the Johnson and Johnson pharmaceutical company. We work not with their American offices but with offices in Europe. The project involves data mining. We develop tools for data mining and of course never see any of their data which naturally they do not share with us. Until recently we had a pro-

ject with the Israeli company called Check Point. Suddenly in April 2009 they closed the project with Arcadia.

COOK Report: Out of business?

Khotin: Initially, our customer was a Swedish com-

pany called PointSec. PointSec bought a UK company with similar skills and product line that Arcadia was working on. Check Point brought PointSec in a year and after evaluation of their product line, decided that because they already have a competing line of products to close



Arcady, in May of 2009, at the Front Door of the building where Arcadia occupies two full floors. The white sign with black letters is an Arcadia help wanted listing.

their operation in similar areas and selected to axe us.

COOK Report: How would you describe what you did for them?

Khotin: It was low-level data security software that would allow the user to protect things that he was working on. With the system we worked on installed, one would be able to leave his notebook in taxi and sleep well afterwards. We were informed by Check Point that, as of May 1, they would no longer be responsible for paying the 10 programmers that we had working on PointSec's projects. They were a good customer of ours for many many years but this is just one example of how these things happen.

COOK Report: How do you go about finding work for the stranded programmers?

Khotin: I am pulling all my strings. I have almost 600 connections on Linked-in. To e-mail my contacts about the availability of these people I would search within Linked-in for data security and throw in a few other appropriate terms to find a subset of my contacts in Scandinavia or in Russia to whom I would send e-mail. If the guys are in my network, I can send e-mail directly to them. If they are in the network of an acquaintance and look especially

good, I can ask the acquaintance to help out. I knock on the door and say "hey I have spare resources. Can you help me to find someone who can put them to work?"

COOK Report: And this is an accepted cultural process?

Khotin: Yes it is used in this way. It is used most often to check references. Of course for many people there is no response. But sometimes there is a positive one.

Importance of Broadband and of Security

COOK Report: What you have described is an ongoing need for Communication on many complex levels with many organizations and many people ranging from e-mail to file sharing -- secure channels for tunneling - and this is why affordable broadband Internet is something without which a business like yours could not possibly exist?

Khotin: Absolutely.

COOK Report: Other than files get larger and with broadband Internet they are easier to deal with how does broadband rather than dial-up affect your operation?

Khotin: Yes. A significant part of our company works in so-called agile mode. This

requires video and audio discussions with their counterparts. If we have several VOIP conversations going in, the smallest delay and transmission will immediately spoil them. We need sufficient bandwidth for that. And it's already a tradition that outsourcing companies keep their source code in a safe place on the customer's site. So we must maintain virtual private network connections to customer's servers where the customer maintains all the source code.

Our developers start every morning by opening both their computers and a VPN connection and retrieving their source from wherever the customer asks it to be stored. Now this must happen quickly otherwise the programmer sits and wastes valuable time. After you work on it, you need to be able to put it back promptly because the customer may have someone in another time zone that needs to pick up where we left off.

Broadband then is a must for us. We are triply homed with broadband connections from three different providers to ensure that we will always be available 24 x 7 x 365. We also use bandwidth management that means our system administrators put some limits on private things that are developers may do from time to time.

COOK Report: You showed me many series of locks on all the doors that weren't there when I saw your offices 10 years ago. Is that ISO related?

Khotin: no. We are merely following customer standards. If the customer is security minded and they want to be sure that everything is closed and compartmented we will do as they ask. And of course for us it is also safer. Twice or three times a year we have visits from auditors sent by different clients. Asked how do we ensure security and in sure that information does not leak. Where are your paper shredders? Where is the fire brigade and where's the closest police station? And what happens if you have a medical accident and all this kinds of questions that are important to know and be able to provide immediate answers to.

A final anecdote referring to the year Y2K problem. At the end of 1999 one of my customers F-Secure sent me an official note. Please provide us with confirmation that on January 1, 2000 you are still in business -- that you will have electricity and Internet. So I sent an official letter to Lenergo, the huge St. Petersburg utility company and somewhere I have their official answer which said don't worry you will have electricity because

we use no computers.

Of course they have plenty of computers now. The first fiber optic connection between St. Petersburg and Finland was done by a subsidiary called Lenevo that was established to join the greater St. Petersburg area electric grid with that of the Helsinki region.

Going up the Supply Chain

COOK Report: In an earlier discussion you had mentioned to me that you found it desirable to have one or two of your own employees spend time directly inside your customer's company. I see now that doing so would provide the opportunity to learn the customer culture in a way that you have shown to be important. Is this another part of your ability to be effective for your customers another part of your differentiator in other words?

Is this something that you have been doing for a while or you just beginning it?

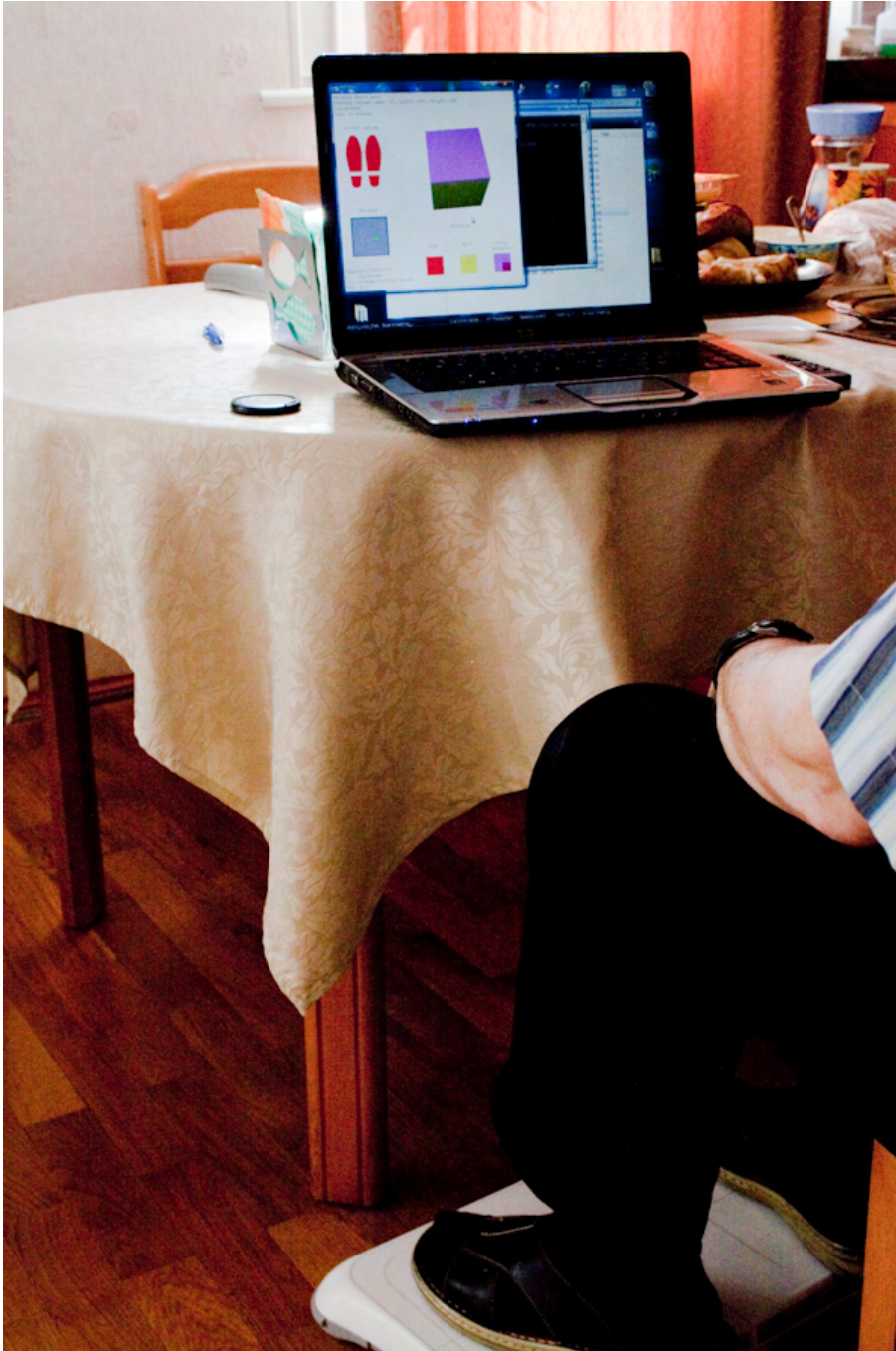
Khotin: This is something that I've been working on for a few years now. We call it going up the supply chain. The majority of our customers are IT organizations within larger companies or they are software houses. And when I say software

houses I mean a company that develops software – like F-Secure. Or they are consulting companies like Aditro.

In other words, there are several basic business models into which our customers fall. We are the same service for all of them. Namely we help them to expand their production or research facility and in doing so we bring them savings in terms of money or time to market or in new ideas and talents we supply them with. But while we are doing this we do not really capable to understand in any detail what they are doing within their home base so to speak.

We speak to them in the language of software in our process of finding out what they want. For example Johnson & Johnson wants tools for data mining. We have never seen any of their data. We develop software salary calculations for Aditro but we've never seen any data on who their end-users are. In other words no real-life data on a person, his age, his Social Security number, his training or anything else that would make the user of our software in to a real person rather than an abstraction.

COOK Report: Do I understand that it is a kind of an issue where you are inviting yourself in over the firewall of your customer? A situation



Arcady demonstrates a test program for the "wii" where, with pressure applied by the foot to the balance board, the user learns how to revolve the purple cube.

where for example Johnson & Johnson would never give you any of their actual data, but where, if you have no idea of what they use the tools you provide them with for, how can you possibly give them something and that is

effective in doing what they want? So you will send an employee to live and work with them? And that employee will get a much better understanding?

Khotin: Yes and he will have

a firewall between himself and us being instructed in greatest detail what kind of information he may give to us and what kind of information is forbidden. He will explain to us **the context** and in general terms **the content** of where our products are being applied. **These days customers expect us not only be on time and on budget but also expect us to be onsite and know their business as well or even better than they would.**

COOK Report: Then this is a kind of liaison that can translate on many levels -- standards of business process and cooperation and the like between two different cultures?

Khotin: For example, you go on a business trip from Russia and live in Finland, you take it for granted that you will be paid in advance and when you return, you fill in a report and they pay you extra if you had some unforeseen expenses. In Russia, because we are poor people, we take it for granted that they give you this money in advance. But if you develop this software for a Western business trips organization, someone must touch the screen and say organize my trip. The Russian developer will understand that one of the first choices for the code he writes must

be an item that says give me the money. But outside of Russia in Finland or the rest of Europe or most of the rest of the world, this item is not needed. This is but one example of many cultural nuances that we increase our competitiveness by making sure our developers understand **the context**.

COOK Report: One of the strategies that you can follow then when presenting yourself to a customer is to say: look we can start with this pilot project, but when we completed we should build into our mutual business plan that at an appropriate stage I will send one of my developers to you and he will live and work at your place for at least three months and may be as long as a year so he really internalizes the necessary aspects of your environment and can transfer them back to the rest of the development team that we have functioning as your own development laboratory in St. Petersburg. You

explain to them the benefits of taking this course of action. It is a kind of cross-pollination.

The Challenge of Trying to Merge Different Business Cultures

Khotin: Yes it is something that we need to do. But we do not necessarily have to send someone to them. They could send one of their people to us. The key thing to understand is that the two business cultures must merge, if you want to go up the supply chain. If not, we stay separated.

COOK Report: You've been

trying to do this for how long?

Khotin: For the last two years. Our customers' top management understands that they need to do this with us. However middle level management seriously opposes this process because, they may lose their jobs and their uniqueness. For example, I am a unique architect living in Gothenburg Sweden and only I know the right architectural solution. If you will send someone who works next to me, then this guy from your company will know everything that I do. This is a serious problem for all outsourcing companies.

COOK Report: So when you



May 29, 2009 - Arcady and daughter Ann on Editors last night of visit. In 1998 Ann contributed "Captain COOK" to the COOK Report logo.

are working in this site area these ideas occur to you and they are not really unique to your company alone?

Khotin: That is correct. The other guys who are on the ball will also understand the need and some will be able to execute it better than others. I realized that we needed to get closer to our customers and my earliest effort at doing this was my decision to start our business in Finland in 2002. My idea was that I would hire some Finns who would work for a Finnish subsidiary called Ardin that in turn belongs to Arcadia shareholders. Consequently, instead of sending people from my customers to work at Arcadia, or sending people from Arcadia to work at my customers, I would hire Finns and pay them to help Arcadia understand better what its customer needs are.

COOK Report: So the Finns in 2000 were one of your first initial approaches to the cross polarization issue?

Khotin: Yes. But now I understand that an ordinary well-intentioned Finn in the IT area is not sufficient. What is needed is someone going to be good in IT and even better in human resources, people skills and at individual motivation. Someone who is very aware of and dedicated to embracing these cross cultural issues. Unfor-

tunately, as a whole, the people I found were neither particularly capable of or interested in doing this. Eventually, we parted with these people. I am still struggling with the need to find good people.

Wii in Finland

COOK Report: Would you explain then how your interested in developing software for the Nintendo Wii came about?

Khotin: I have been in Finland long enough to understand that this country, as many other Western countries, faces a problem of people getting older and older and the need for active people in IT only goes up. What I want to do with Wii in Finland used to make serendipitous use of the fact that we have a Finnish subsidiary and that tailor-made wii plug-ins may be of interest to Finnish industry and healthcare and the fact that we have Russian programmers who can provide expert development of such plug-ins if we can get agreement from our Finnish contacts to subsidize some early efforts. The goal is to make active life of any Finn a bit longer, turning him/her from coach -potato into a user of our Wii "Serious games".

Before my wife and daughter

gave me the Nintendo Wii Sports and Wii fit I had no idea about any of this. I spent about 200 days using it before I developed an understanding that exercise with Wii is a great thing. If you had asked me 200 days ago about physical exercise I would've said "are you kidding?"

However, I see enormous possibilities and can use the little company Ardin I have put some years of effort into as a means of selling tailor-made applications and development services to enterprises and to healthcare operations in Finland. So it becomes a serendipitous software development project. And in this kind of a project because I know both the Russian and the Finnish way of doing things I can provide the expert cultural liaison needed.

COOK Report: And perhaps with you playing this liaison role the friends with whom you work will comment to understand much better the need for it and how to bring it about?

Khotin: That is a possibility because I will speak with Finnish industry organizations that give money to innovative companies. Ardin in Finland is an innovative company that applies for a sponsorship to develop a business plan toward this end. In our busi-

ness plan we will say what we will do and note that the Finnish population is getting older and we want to improve their health. Your tailor-made programs appropriate to various population sub-groups enable some trans-sectoral savings in the health care area and further save money by the use of Russian programmers. We would also like to see a situation where TEKES, Finnish Innovation Funding organization would say to the next applicant: we don't see any Russian programmers here -- why not? Speak to Arcady.

Future Direction

COOK Report: Well let me conclude by asking what your plans for Arcadia are for the next six months or year or two years. Where are you trying to go?

Khotin: I have a solution. I think it is clear that we will not be able to progress in the direction we are trying to go without good partners. We are actively seeking partners who will help us make it to the next level. For us the next level is integration with

a similar company in the West - Be it in Finland Sweden, Norway and the US elsewhere in Europe -- a similar consulting company.

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<http://www.offshore-software.ru/articles.htm>

A Summary of and Quotes from *The Age of the Unthinkable* by Joshua Cooper Ramo

In his remarkable book, Ramo sets out to look at the changing face of history on the world stage. He describes the relatively rigid hierarchies of the 19th century and the change fermented by the first two decades of the 20th century especially in Vienna. He then points out the evolution of superpower leadership where the victors of World War II and eventually the United States tried to set the course for the entire world. Finally a clash of communications and culture powered a diffusion of power to players at the periphery, he describes why, in the first decade of the 21st century, all this has broken down.

He points out that both the 19th and the 20th century were run for the most part from the point of view of top-down and stable hierarchy and then shows why, given the speed of travel and communication and globalization, cultures have become inextricably interlinked to the point where they display extreme, sudden and unexpected vulnerability to systemic crises. He uses the research of the Danish physicist and biologist Per Bak who figured out how to study the process of mak-

ing an ever larger pile of sand looking for the one grain that would cause a sudden and systemic collapse not of just a part of the pile but often of the whole pile.

What Per Bak saw was that there was indeed no way to predict the course of this sandpile environment in the 21st century. With everything so inextricably interlinked in so many complex ways, life in the 21st century cannot be looked at as a stable system to be governed via top-down planning. p. 48

Ramo then goes on to give examples from many different fields: technology, military, strategy, business, and epidemiology and so on that -- especially when brought together in unexpected combinations or mashups -- produce events that cannot possibly be foreseen or planned for. Bringing together time in China and an extensive knowledge of Asian culture philosophy and military strategy, he presents a stunning contrast between the American and Western way of mounting a huge army in a brute force attack on the perceived problem only to see the situation metamorphose and the problem melt into the distance. If the problem recedes it leads the attacker into an area of quicksand where its effect slides off the enemy who is changing more

rapidly than the Western direct to desktop down military or business or scientific or technical or economic command can cope with.

He asks how one can manage it by military means. Be it a nation or a business large or small -- how can one manage in the midst of such chaos in such unpredictability? The answer is that of course in the traditional ways of the 19th and 20th century one cannot manage and consequently one fails.

He then suggests two powerful cultural differences in the approach problems between on the one hand Americans and on the other hand the Asian or Chinese point of view. He looks at the case of Aharon Farkash, the head of Israeli military intelligence in the winter of 2001. On page 134 he writes "when Farkash -- finished his term in office -- his complete term -- in early 2006, before that disastrous Lebanon war, he had not only avoided the fate of those now dismissed chiefs but had established a record of devastating clarity." [snip]

"Buddhist masters like to say that if you're trying to reach enlightenment, you must develop, in this order, "right view, right intention, and right action." **But if you're not seeing the world properly you have no hope**

of any sort of breakthrough. The question I want to explore now is this: what is the right view when it comes to life in a revolutionary age? When the defining trait of life is the sandpile developments that by definition, are new in our experience, how should we look at the world? **Do we have anything to learn from people who are particularly successful in places where fast change and surprise are facts of daily life? These are vitally important questions if you are trying to train yourself to make sense of a world order that looks increasingly out of control.** If you're running a corporation, planning for your kids education, figuring out what countries to bomb and which to befriend -- what should you be looking for? We'll turn later to the other Zen master problems of how to think about such a world and how to act in it. But if we can't even master the art of seeing then as Lewis Halle said we are not very likely to get what we're aiming for." pp. 134-35

"Many of our problems today are not the result of too little information. Instead they come from the challenge of sorting through a huge and growing amount of data, all constantly changing, and much of it irrelevant or misleading. I had heard through friends both in both the

United States and Israel about far, should not only be because he was renowned for finishing his whole term but because he was known as one of the great instinctive spies of his generation. Go see Farkash was a refrain amongst the spies and analysts I most respected. You could joke that he was the Israeli Yoda, filled with barely inscrutable insights but his record spoke for itself. He seemed, my friend said, to have made the uncertainty of the world around him and intuitive part is. This was they said we should all aspire to be. p. 135

What Farkash was proposing was a **"way of seeing that never lingered on a single variable.** This week you might look at how many tanks Syria had, next week at the most popular program on Iranian television. The goal was to watch for change, to see how the society was moving and understand that this snap of instant change could come from many surprising places. Gorbachev's regime shifting *nomenklatura*, for instance, or the combination of airbag technology and games that is in the Nintendo Wii."

[SNIP.] **"What you could never do was treat what you needed to know as something fixed, something that could be managed the way you would**

run down the list of things to pack for a vacation underwear swim trunks sunscreen." Page 143

Ways of Seeing

p. 155. Nisbett dates his curiosity about the subject to a debate he had with a Chinese graduate student in the early 90s when he discovered that there were fundamental differences in the most basic elements of how the two of them thought. The Chinese believe in constant change his student told him by way of possible explanation. Westerners live in a simpler, more deterministic world. They think they can control events because they know the rules that govern the behavior of objects.

Until that moment Nisbett later wrote, 'I had been a lifelong universalist concerning the nature of human thought.' That is Nisbett, like most other psychologists, believe that everyone basically thought and reasoned in the same way; any differences were due to the quirks of our education, families, or experiences. [SNIP.]

The more Nisbett thought about what his graduate students had said the more curious he became. Culture, he figured, had to make some sort of difference. But explanations about how it might

do that he found were surprisingly under developed. p, 156

[Snip.]

"The question that soon obsessed Nisbett was whether these early cultural twists in Western and Asian education played out in later life. Did they for example offer insight into the old truisms about Asians being more family centered on Americans being more rebellious?" 156-57

So starting in 1993 Nisbett began a series of experiments that offers some of the first reliable data on how culture shapes thinking. It was a controversial work. After all, suggesting that culture shaped thinking seem awfully close to making of the other uncomfortable suggestions about how culture might limit into the intelligence or individual potential. The research could quickly lead critics feared into ideas like Asians can't handle democracy.

So Nisbett stuck tightly to quantitative side of science, and most of his papers -- and those of his researchers to join his work -- were carefully written to avoid stretching the conclusions about what they found in the lab very far outside it. But what they did find, particularly in experiments about how people see, offered one of the clearest

explanations of why we often make the errors the type that Lewis Halle warned against in that Farkash and Mauritz somehow instinctively avoided. 157

In late 2004 Nisbett and two graduate students, Hannah Faye Chua and Julie Boland, set out to recruit a group of 50 graduate students from around the University of Michigan campus and Ann arbor. Half of the students have been raised and educated in the United States the other half, though now students at UM had been raised in China.

On the day of the experiment the students ride arrived at Nisbett's lab and filled out a short questionnaire about their personal histories then Chua led them to an awkward looking lab set up on the table which included a computer screen at one end and a chin rest on the other on a desk nearby was a head mounted device that would track the students on movements after strapping on the device the research subjects placed their chins on the small plastic rests and the lights in the laboratory turned off. A picture of a small cross was beamed onto the screen in front of them and then one by one at three second intervals a series of pictures appeared on the screen. The pictures all had a similar visual motif an image and a

large opted object in what Nisbett called any realistic complex background -- a tiger in a forest for instance or a horse in a field of flowers. The research subjects were shown 36 images for about 3 seconds each. After each image, the screener returned to the white background with a cross and the students were asked to refocus on the cross when a new image appeared a few seconds later the eye tracker silently recorded where the students looked and for how long. The screen then went to white again and the process was repeated. p. 158

When the students had finished, Nisbett sorted the eye movement data and found a pattern is so clear that his first instinct probably should've been to wonder if there was a mistake somewhere. While observing the images flashed in front of them, the American students immediately looked at the foreground objects -- the horse or the Tiger for example,. And once they spotted that image, they spent the bulk of the time, before the screen went white again, looking right at it.

The Chinese, by contrast, usually look at the environment around the named object first, probing the realistic complex background of Forrest or field. They did look at the focal object but for far

less time than the Americans. There was no time point at which the Chinese were fixating on the object significantly more than the backgrounds Nisbet later wrote. 158

This was, to a Western point of view, a bit weird. It was ever if someone took out his own wallet to show you pictures of his kids and you had started complementing the furniture in the snapshot. It was too simple to say that the Americans stared at the main object to the exclusion of everything else but when the researchers later tested the students to see what they recalled, this was more or less the pattern that emerged. The Americans had a better ability to recall specific objects they'd seen --horse, car, dolphin.

The Chinese often forgot what the object had been in a given scene but recalled the backgrounds in detail. In fact simply by changing the backgrounds, Nisbett and his colleagues could fool the Chinese into saying they had not seen a particular object before. You can flash a picture of a brown horse in the field, a stream, or a forest, but if you put the same brown horse and Street scene later on and asked the Chinese students if they'd ever seen it, they usually answered no. What was going on? Nisbett hazarded this guess "East Asians living in relatively

complex social networks with prescribed role relations. Attention to context is therefore more important for effective functioning. In contrast Westerners lived in less constraining social networks that stress independence and allow them to pay less attention to context." That was partly true and **you can see why in a world where context matters so much, Western-style seeing might now have become a liability.** p. 159

SNIP

This emphasis on everything around us instead of a "me first" view of life reveals a quirk in the Asian way of seeing, one that also showed up in Nisbett's study, if we look at it in the right way. Western science saw the world as something that could be understood and dominated. But ancient Chinese thinking was obsessed instead with the mysterious, impenetrable part of nature. p.160

Page 211. **Direct confrontation with problems is more than a habit of Western culture; in many ways, it is a defining trait.**

But what would happen if, for a moment, you looked at the world as those Chinese students in Nisbett's lab did? What if you asked them to plan a war? Recall that they believed the environment

mattered more than the central image. That was why their eyes constantly moved from place to place. Taking in the context of an image such a view produces a very different logic of action, one that sees us and sees our aims is only one part of a larger system (whether it is the Middle East or global financial markets) instead of as the center. If you can understand that by mastering the environment around your enemy, you can indirectly manipulate him, which is far more effective and inescapable than trying to persuade or to confront him directly it would be like making it rain on the day that someone has a picnic planned instead of trying to talk or argue her out of it. Manipulation of the environment in this way is faster, in a sense and more reliable than persuasion -- a fact is true for dealing with Iran as it is for picnickers or tumors. But this demands making contact with and using the whole system." pp. 211-212

COOK Report: In other words that whole system that inextricably links the linked and carefully balanced and unstable sandpile of parabolic linkages

Ramo ends his book (p. 263)

The people and institutions we might once have relied

upon to rescue us can't. But what we decide to do now, the decisions we make as history touches each of us, will mark the future for all of us. The power of individuals has never been greater. This is the energy that we have seen animating people as indecent as those Hezbollah guerrillas and virtuous as Tony Mole. It's the spirit that prompted me to write this book to see what we could do once we understood the nature of the tsunami coming our way. But answering this call requires, finally, a leap of faith.

It means accepting -- because this can never be proved in advance -- that change will always produce more good than bad. This is the hope without which great acts of self-sacrifice and imagination that we now require will be impossible. It is the optimistic spirit buried, finally, in the answer to the question everyone asks that those moments when history bursts through its diorama case, when it unthinkably appears in front of us, when it

threatens much that we cherish. Is the question that Kiefer was trying to answer, the question my friend Li had to come to terms with. And now it is also the one we must all confront every day of our lives in this unstable, terrifying, and hopefully new order, the one, yes, you must, in two seconds, answer for yourself and for the people you love:

"this age, what does it demand of me?" p. 263

Symposium June 17- July 17

Differing Content Distribution Models

On June 25 **Hendrick Rood:** So why is Disney or the NFL different than Elsevier Science and their contract with university libraries? I have seen some discussion about this NFL-issue over the list. Thus, Disney asks a fee from ISPs to provide access to their NFL website.

Elsevier Science asks a fee from university libraries to get access for their staff to their journals. If you browse a Journal on their website from an university network, you see in the corner of the page "Welcome University ...". As far as I know they filter on public IP-address ranges. They get the IP-address ranges of the university from their contract partner (the Chief Librarian).

Feld: OK. There is a fairly standard model on the internet that you charge whoever can get to your site for access. That's fine. Whoever wants to pay, pays. Whoever doesn't want to pay, doesn't get in.

In the U.S., cable works differently. The cable system pays the cable network programmer based on the total number of system subscribers. Whether I want the pro-

gramming is irrelevant. Disney can charge lots for content when they bundle it together and when I have no choice. When I have choice, they can only charge what people are willing to pay. Obviously, they would prefer to make everyone pay -- even a trivial amount per sub -- than to charge what a willing viewer will pay.

Elsevier Science charges anyone who wants to pay for access. Disney gets the participating ISP to pay for everyone on its system whether they want the access or not -- in part because doing so is necessary or reduces cost on the video programming side. This must inevitably show up in pricing for all subscribers.

Rood: It's as simple as that and done that way for years. Want to view an article and not working at a university? You can pay for a single article download.

A few years ago I saw the Dutch government's main economic policy think-tank boldly declaring that Science Journals would encounter dark clouds and had a dark future in front of them. They hadn't a clue that the business model of Scientific Pub-

lishers was entirely identical via the Internet, well enforceable and even far better manageable and with less paper costs by changing to mainly distributing over the Internet.

Don Marti: *How do I get access to ESPN360.com?*

ESPN360.com is available nationwide, but you must subscribe to a participating high speed Internet service provider. There is no option for a user to subscribe individually. They're counting on users to ask their ISPs to subscribe for them, cable TV-style.

It's not a simple IP address match -- they apparently do allow users to create an account using a participating ISP, then get access from elsewhere.

Feld: Disney bundles access to ESPN360.com with its ESPN offering. It's a classic tying arrangement.

Rood: Elsevier lets the Chief University Librarian pay for all students/employees in an university for access to a bundle of papers. I doubt there is that much difference. Universities deploy authenti-

cated VPN-routers to allow employees/students to work both from home and elsewhere and access scientific journals.

Getting access however to a more specific economics journal at a technical university is difficult because "not all are in the bundle". The same applies in reverse for an university with a big economics department, who tend to have limited access to technical science journals. Not so different in my view. Replace university by ISP and grasp the point that at your university you are in a contractual relation as student/employee which contains payments (tutorial fees or salaries & perks).

Feld: Of course, a transaction that covers nearly a quarter of the U.S. broadband market is exactly the same as a library ordering a bunch of journals. And the economic impacts are just as trivial.

And ISPs are like supermarkets. The drive to make policy by dumb analogy never fails. A classic example of what I call the "all things orange" fallacy

<http://www.wetmachine.com/totsf/item/1262>

Goldstein: It may be... but copyright is like that. It grants monopoly control

(modulo previously-listed exceptions; thanks, Rollie) over a piece of IP.

On occasion, government tries to limit this by imposing rules upon licensees who deal in IP. So TV stations are regulated based on the scarcity theory of licensing, and those rules sometimes impact how they can deal with copyright holders. Likewise cable is regulated and those regulations can impact how they, as regulated entities, deal with copyright holders. This is indirect copyright regulation.

But newspapers are freer, and have less protection. So when Rupert Murdoch bought a comic syndicate, he pulled some popular comics from the Boston Globe and gave them to the Herald. No recourse. Freedom of the press and all that jazz.

So while consumers may not benefit from these copyright tying arrangements, I don't think that a good approach is to turn ISPs into licensed, regulated entities, like TV stations, whose deals with copyright holders can be regulated in the same indirect manner. Just because we're not happy with everything that results from the freedom of the Internet (which is, I suggest, more akin to a publisher than to a TV station), that doesn't mean we directly regulate it. Better to focus on copyright

law per se, which is out of control and raises its ugly little head in all sorts of places.

And yes, I do think that Elsevier's deals with various libraries offer a good analogy. Just because it impacts more people doesn't change the principle.

Feld: Fred, I wasn't suggesting necessarily solving this from the ISP side. I'm quite happy with imposing an unbundling rule by extending Section 628 of the Communications Act to include web-based content.

Goldstein: Section 628 is about CATVs' (well, MVPDs writ large) anticompetitive behavior. It's like the old rules about TV networks. Networks were not regulated at all, legally, but TV licensees could be prohibited from carrying the content of networks that didn't do what the FCC wanted. Again, a level of indirection. (It's so very American to regulate that way.)

So your only legal nexus here, to restrict the rights of publishers (ISPs) to enter into copyright deals, seems to be by noting that those same copyright holders sell to regulated entities. So either you regulate publishers directly, (Do you REALLY want to go there?), which would be the impact of extending 628 to ISPs, or you

ban MVPDs from buying channels from copyright holders who don't enter into deals with publishers on terms you like. That just strikes me as legally tenuous and risky. Better to just address copyright.

Cooper: The Disney model is a classic example of anticompetitive bundling. Disney forces cable operators to put ESPN into ever home and charge every subscriber, even though three quarters would not pay the freight if given the choice, by bundling it with all the other ABC/Disney content it offers. Cable operators claim they would prefer the Elsevier model by occasionally threatening to put ESPN into a sports tier (wherein only those households that want it would pay for it). Of course, they would only put sports programming they do not own into the special sports tier. They would keep their owned sports programming on the basic tier. Elsevier charges an outrageous price, as would the sports programmers, if they were forced into a separate tier.

All of the anti-consumer, anti-competitive aspects flow from the existence of market power. Lacking little competition at the point-of-sale, cable operators get away with bundling that picks the consumer's pocket. Having been allowed to acquire a massive

suite of programming (the ABS/Disney merger and build franchises through bundling), Disney exercises market power over content. Consumers and competitors (who are denied access to or charged outrageous prices for content) suffer the consequences.

If we were to address the underlying competitive problem, we would solve the original problem that started this thread. In a competitive marketplace, where content providers are not allowed to collude the "pay anywhere" model is unobjectionable.

Feld: Mark, I think you are right -- but with the warning to others that it will take more at this point than simply imposing structural separation. As you know, but others here may not, we didn't stop the regulation of AT&T with the 1984 divestiture. We continued to regulate AT&T as a dominant carrier until they dropped below 50% market share. In the UK, I recall hearing from BT that they are regulated as dominant until they drop below 35%.

One of the big problems in the last 20 years has been the belief that *potential* competition is as good as actual competition (as evidenced in the recent DC Circuit case reversing the FCC's refusal to grant VZ's forbear-

ance petition based on VZ's overwhelming actual market share without "adequately considering" the potential competition). But potential competition only works where customers have a sufficient number of choices and where switching is easy enough that a firm fears swift erosion of marketshare if it does not respond quickly. If we ever manage to get structural separation in this country, I would want us to continue to regulate dominant carriers until actual marketshare reflects that competition has genuinely taken hold.

Abramson: Sure, Disney and Elsevier tie access to platform subscription, imposing switching costs. The Disney switching cost is changing ISPs. The Elsevier switching cost is changing universities.

But we don't "subscribe" to universities solely, or even mainly, for access to journals. And, anyway, the tying is incomplete, as we can get access to Elsevier journals without switching or joining a university. Not so for ESPN360. The analogy does not hold.

Goldstein: I'm now going to switch from my copyright-critic hat to my techie hat.

There is a good reason why ESPN360 and ISPs want a priori agreements. It's more

to protect the ISPs, but also improves the usability of ESPN360. Video eats tons and tons of streaming bandwidth, the kind that doesn't slow down (TCP slow-start) in the face of congestion. Under congestion, it degrades (verb intransitive, referring to itself), and it degrades (verb transitive) the quality of other applications sharing the congested link. This makes it "anti-social" when sharing a link with data (TCP).

The obvious workaround is to minimize the common facilities. So the cable-ISPs who are in on the trial are probably connected directly to CDNs that actually host ESPN360. Perhaps The Mouse has built its own CDN, or the networks have. But I am fairly sure that the cable CTOs have figured out that if 1000 of their subscribers in a head-end cluster are watching ESPN360, there will not be 1000 separate streams going back to Bristol. There will no doubt be some kind of fan-out server.

The BBC is already doing this in England. There has been some controversy over their streaming service, and conflict with BT which, if I recall, has led to some CDN-type facilities at the ISPs.

Abamson: As for legal tenuousness -- it is hard not to be dubious. This is typical broadcasting regulation.

Goldstein: I do point out that while Canada has had serious discussion of regulating Internet broadcasting per se, applying content-related rules like "Canadian content", such discussions are entirely beyond the pale of the American system. Cable and Internet content is basically unregulated -- that's why we have hard-core porn on cable but broadcast TV gets grief for a trivial "wardrobe malfunction".

Abramson: I guess one could call it "indirect copyright regulation", at a stretch, and if one was unfamiliar with this domain. But it's certainly nothing new or unusual in any jurisdiction in which multi-channel video competition exists. Except, of course, that it is taking place on top of a platform in which physical intermediaries had not yet levered that status to create artificial scarcities.

Goldstein: "Artificial scarcity" is a common paranoid trope concerning the Internet. We heard a lot about it here a couple of years ago, from a former list member. Of course he was sure that it was really possible to send a gigabit down a five-mile long copper local loop, and the DSL industry was covering this up to protect scarcity. Raw fiber transmission bits are cheap. IP routed bits are many times more expensive

-- it's not even rational to use a multiplier, since the cost of IP is so much greater than the fiber cost. But then if you're an ISP and don't own your own fiber to the Backbone, you have to pay carrier rates, and if it's Special Access, then it's inflated to be much more costly per bit than routed IP. That's sort of like artificial scarcity, but in practice they're happy to sell you all you want, so long as you pay for it by the DS0 toll call.

Now they are, so we should ask the same questions about these bottleneck facilities as we usually do. If a rightholder holds a monopoly in the making available of certain types of audiovisual content, and wishes to deal exclusively with some platforms as opposed to others, there is a competitive issue to be addressed. I would not go as far as Mark Cooper in simply calling this anticompetitive -- we'd have to look at what content, what near-substitutes, and instances in which there are policy reasons for wanting broader access to the content.

Earlier **Goldstein:** I don't have a problem with applying pro-competition rules to copyright. But then I have a lot of problems with the copyright system. I'm not a "freetard", as some dub the anti-copyright extremists, but I think things have gone way

too far over to favor the "rights" of so-called IP owners. The Internet is just another medium for this to be manifested. But then copyright is the sort of thing that breaks down if there are any loopholes.

Abramson: Fred, you'll get no disagreement from me as to there being very good reasons as to why ESPN360 or ZillionTV would want to set up SLAs and other agreements with ISPs -- if there weren't very good reasons, Akamai and Limelight wouldn't have very good business models. But that doesn't make the policy issues go away. The two simply aren't mutually exclusive.

As to "Canadian content", which rules are intended to provide an opportunity for domestic producers to access audiences despite a lack of scale economies, sure, those rules do not exist in the U.S. However, those are only one aspect of broadcasting regulation. The goal of maximizing diversity of voices and access to agonistic content is typical of broadcasting policy in most jurisdictions. Creating more robust competition by looking very carefully at tying such content with platform access, when such tying creates significant switching costs to the choice to consume certain content, is not particularly Canadian, I suspect -- as someone pointed

out re: Premier League and other soccer rights in Europe. The issue is not that all content is public-interest content with respect to which policy-makers think it a good idea to unbundle switching costs. It's that some of it is.

Finally, I have no particular purchase on the term "artificial scarcity", and it might not be the best to describe what I mean. You're right that, at the end of the day, there's nothing particularly artificial about the decision to bundle switching costs to the cost of accessing content -- it is, after all, a classic market strategy for information goods (like video content), and some years ago Carl Shapiro and Hal Varian devoted a whole whack of a pretty good book to explaining why. This is certainly the point at which the technical and strategic reasons for working with ISPs become difficult to distinguish. But, at the end of the day, the point is really that an Internet environment in which rightsholders go directly to ISPs, looks different than an Internet environment in which they work with universally-addressable intermediaries like CDNs. If we start to end up with the former rather than the latter, then the usual policy questions arise. Regulators in many jurisdictions have felt that there are some content bundles with which it is not in

the public interest to bundle platform-switching costs. I see nothing particular about Internet access networks, when interconnected with content servers configured in the manner described above, that would change that.

Cole: Anti-bundling rules (whether on copyright or antitrust grounds), as are sometimes proposed for cable groups of channels (although a "channel" is itself a form of bundling) are one proposal for dealing with all this. Query -- is "the world" and/or various parts of it (songwriters, performers, publishers, record companies, fans) better off because iTunes will sell individual songs instead of ONLY albums?

How would we feel about a resurrection of "B sides" in that in order to get song A, you also had to buy song B, which was picked by someone other than the buyer?

At one level, we have shows (or even episodes within shows); at another channels; and at another "channel packages." The courts are a bit divided on whether requiring that you also buy (or license) copyrighted work B in order to get work A is or is not over-reaching of the lawful monopoly on work A. But it is NOT solely a copyright issue.

Abramson: Again, I don't think describing broadcasting policy as copyright policy is particularly illuminating -- it's an approach to regulating competition in a particular domain, which domain depends on copyright for the regulated commodities to cohere. The two are certainly related, and I suppose that if it helps someone relate back to how the sector coheres in the first place then it is a useful term to use. But it rings a bit hollow.

Content-bundling -- horizontal tying, really -- is in most contexts a different question than vertical tying. Bundling popular and unpopular products together allows the for-

mer to subsidize creation of the latter; the marginal cost of supplying the unpopular product along with the popular one is nothing; and the creators are basically unable to know in advance which products will be popular and which unpopular. So it is hard to think of contexts in which outlawing content bundles, on a given platform, would help anyone: if iTunes wants to move towards an A/B side model, it is certainly free to do that, especially if it does not hold exclusive distribution rights in the content that it distributes (I had understood that this was the case). If its rights were exclusive, and some of it what it distributes has a public in-

terest component, then it might be a harder policy question, no?

Return on Assets versus Return on Equity

COOK Report: John Hagel and John Seely Brown have come out with their first extensive report on the way the world works from the Deloitte Center for the Edge.

Here is a snippet of Cory Doctorow's take.

Financial shenanigans wiped out all productivity gains from digital technology
Posted by Cory Doctorow, June 27, 2009 11:26 AM | [permalink](#)

The new report from the Deloitte Center for the Edge says that, "return on assets for U.S. companies has steadily fallen to almost one quarter of 1965 levels, at the same time that we have seen continued, albeit much more modest, improvements in labor productivity." Jon Taplin explains, *"any productivity gains from the digital revolution have been more than wiped out by our corporate (as well as personal) addiction to debt. To understand this, it's important to grasp the difference between return on equity (the classic Wall Street measurement) and return on assets...*By masking their absolutely dismal performance in the last 40 years in ROA, by taking on

more and more debt to juice ROE, both Wall Street and America's corporate elite are engaged in a massive shell game, in which the average investor is the mark."

COOK Report: in my opinion what Taplin writes below is more important than the Deloitte report....unless one already knows this... I did not.

America's Corporate Shell Game (Jon Taplin)
<http://jontaplin.com/2009/06/27/americas-corporate-shell-game/>

Return On Assets

My friend John Seely Brown just sent me a report from his Deloitte Center for The Edge called The Shift Index. They make no attempt to hide the bad news for the U.S. Economy-"return on assets for U.S. companies has steadily fallen to almost one quarter of 1965 levels, at the same time that we have seen continued, albeit much more modest, improvements in labor productivity." The meaning of this is staggering-any productivity gains from the digital revolution have been more than wiped out by our corporate (as well as per-

sonal) addiction to debt. To understand this, it's important to grasp the difference between return on equity (the classic Wall Street measurement) and return on assets. A case study of General Motors from 2003, when SUV's were selling like hot cakes and the management was touting it's ROE is instructive.

Let's calculate ROE for the automotive giant General Motors for 2003. To get the necessary data, go to the GM's Investor Information website and look for the 2003 Annual Report. You'll see on GM's 2003 Income Statement that its net income totaled \$3.822 billion. On GM's 2003 Balance Sheet, you'll find total stockholder equity for 2003 was \$25.268bn and in 2002 it was \$6.814bn.

To calculate ROE, average shareholders' equity for 2003 and 2002 ($\$25.268\text{bn} + \$6.814\text{bn} / 2 = \$16.041\text{bn}$), and divide net income for 2003 ($\$3.822\text{bn}$) by that average. You will arrive at a return on equity of 0.23, or 23%. This tells us that in 2003 GM generated a 23% profit on every dollar invested by shareholders.

Many professional investors look for a ROE of at least 15%. So, by that standard alone, GM managements' ability to squeeze profits from shareholders' money appears rather impressive.

Now, let's turn to return on assets, which, offering a different take on management's effectiveness, reveals how much profit a company earns for every dollar of its assets. Assets include things like cash in the bank, accounts receivable, property, equipment, inventory and furniture. ROA is calculated like this:

Return on Assets = (Annual Net Income/Total Assets)

Let's look at GM again. You already know that it earned \$3.822bn in 2003, and you can find total assets on the balance sheet. In 2003, GM's total assets amounted to \$448.507bn. GM's net income divided by total assets gives a return on assets of 0.0085, or 0.85%. This tells us that in 2003 GM earned less than 1% profit on the resources it owned.

This is an extremely low number. In other words, GM's ROA tells a very different story about the company's performance than its ROE. The big factor that separates ROE and ROA is financial leverage, or debt. The balance sheet's fundamental equation

shows how this is true: assets = liabilities + shareholders' equity. This equation tells us that if a company carried no debt, its shareholders' equity and its total assets would be the same. It follows then that their ROE and ROA would also be the same.

ROA gives an idea as to how efficient management is at using its assets to generate earnings. If Wall Street and investors had been focusing on GM's ROA in 2003, they would have seen that it was a train wreck about to happen.

But it's not just GM as the Deloitte report points out, it's the whole corporate economy. *By masking their absolutely dismal performance in the last 40 years in ROA, by taking on more and more debt to juice ROE, both Wall Street and America's corporate elite are engaged in a massive shell game, in which the average investor is the mark.* The Deloitte study points out the real game, although in somewhat opaque language-"While the performance of U.S. firms is deteriorating, at least some of the benefits of the productivity improvements appear to be captured by creative talent, which is experiencing greater growth in total compensation." I love the term "creative talent" as if we were talking about Steven Spielberg, instead of some CEO who is good at massag-

ing the numbers of his company in creative ways, so as to trigger his stock options.

Six months ago I wrote about the role of Mike Milken in transforming the economy from ROA metrics to ROE metrics by creating the Junk Bond. Milken started in the early 1970's and by the time he went to jail in 1991, any company that wasn't leveraged to the gills was a target of a corporate raider or private equity baron.

It's time to return to sanity. The Wall Street analytical community must start using ROA as a key performance measurement. The folks at the Center for the Edge have some great ideas about how we can increase ROA through knowledge flows. But until we recognize the basic problem we are living in a fool's paradise.

The Shift Index (Deloitte Center for the Edge) <http://www.deloitte.com/dtt/article/0,1002,sid%253D227141%2526cid%253D266128,00.html?introlist>

Vest: I'm not sure that the switch to an ROA perspective would redeem us entirely, at least not in cases where the assets in question are capable of generating Moore's Law-like effects.

Demanding a valuation method that incorporates all

applicable liabilities is a no-brainer, but that will still leave investors with the challenge of understanding what kind of "R" to expect (and demand) in markets where technology rewards incremental capex injections with very large productive gains. Should investors expect/demand returns that track the incremental investment trend, or returns that resemble the superlinear productivity gains? It seems to me that we spend a lot of time on this list glorifying the new possibilities that the Internet has/could provide to end users -- many of which have no direct monetary return (e.g., the amateur websites/blogs, local-local services, et al. that no one expects to earn \$ from directly).

To an investor who expected every increment of increased productivity to yield a corresponding return, these activities might be regarded as squandered opportunities (i.e., needlessly generous consumer surplus) -- especially in sectors with little or no competition. Would those activities still seem as promising/exciting if each of them were guaranteed to carry (at least) a time or usage-based price tag that paralleled that of consuming "premium" third-party content? If yes, then perhaps there's no "incentive problem" for investors. If not, however, then the question of

what investors *should* expect from the "new economy" will only be partially answered by changing the term on the other side of the "o".

Cooper: Return on equity was a good capitalist and useful measure as long as debt-equity ratios were reasonable and the assets of the firm were tangible (i.e. capable of actually producing a stream of goods and services). In the past 30 years we have abandoned the real economy and allowed the financialization of everything, so those basic verities no longer obtain. Technically the productivity gains have not been wiped out. WE can still produce a much larger stream of goods and services because labor is more productive. Because of the massive increase in inequality and the failure of workers (both in the U.S. and abroad) to share in the gains of productivity, consumers cannot afford the goods and services they produce. We financed our life style with debt that became unsustainable.

With respect to the 25 key ideas, for me they boil down to one thing. The Long tail is dead, the sneaky exponential is the future. The revolutionary aspect of the digital revolution is not in the ability to extend the one-to-many model into the long tail, it is in the power of self-forming groups made possible by

near zero cost, always on communications. I am working on a paper for the Silicon Flatiron Broadband Migration conference in January entitled

How to Win Friends, Influence People and Make a Little Money in Cyberspace: The the Long Tail Meets the Sneak Exponential. The scale of human interaction in real time has been transformed.

Cowen: If you are writing about the commercial models and business models for the future it may be worth addressing the following 3 points:

- 1) Revenue Assurance. In many consumer markets the business model is one where the consumer has freedom to be a "fickle follower of fashion". This means adaptation by suppliers to meet swiftly changing demands. No problem, I hear the economists chorus... that is what markets are supposed to do and, with a tip of the hat to social evolution, we are supposed to be happy with a society where producers and the people who work for them get slick at meeting these ever changing demands.

For the suppliers the issue is one of revenue assurance: manufactured products can be replaced and the factories adapted but this would be too risky/not possible without assurance of revenues. Without such assurance factories close, people get laid off, capacity exits the market, expertise is lost etc. A good example of revenue assurance is the longer-term service contract offered by mobile phone companies. These agreements are about cash from customer to supplier and that assurance allows the supplier to meet the changing demand with some understanding of its income. When we put the first deals together in the UK, to bundle handset and phone tariff we were accused of anti-competitive bundling; the dividing line is not easy but in my opinion the revenue assurance model we created through this innovation has allowed the mobile phone industry to fly.

2) **Vest:** As a former supplier myself, I can completely understand the supplier's commercial need for revenue assurance, and the argument for capacity preservation seems like it could be compelling when made by a manufacturer of hand-

sets or other gadgets, assuming that the development and launch costs for every new product is potentially crippling (?). What you're describing sounds like a kind of vendor financing for CPE (equivalent) -- in which case, so long as it's not compulsory, and the "vendor" in question does not command significant market power (SMP) over the transport media between the customer(s) and everything else, then I'd be inclined to agree. I also agree that it's a tough call though -- the region of defensible practices between (a) anti-competitive exploitation of network facilities to cross-subsidize handsets, and (b) anticompetitive exploitation of handset requirements to cross-subsidize network facilities is probably not all that broad, and never going to be very easy to demonstrate.

Cowen: 2) "Technological Discontinuity Shifts" and "Sweating Assets". The first phrase is difficult to say and the second prevails: when a wave of innovation takes place it often means that assets need to be replaced by new equivalents that are cheaper/faster/better but this happens less often than it should. It is financially rational to replace the older

assets with the new and productivity should improve. This doesn't happen for a number of reasons; the old assets are revalued according to the revenue that they produce, so if an old asset has been written down but it continues to produce good revenues or revenues can be allocated to it as part of a system, it looks to be a profitable thing to keep on a balance sheet rather than to spend scarce capital and replace the (profitable?) asset. I think that behavioral psychology plays a part here too; the equation is complex and it is easier to stay with the status quo than it is to make a change; we are less keen to take a risk on something we don't know and we value loss to a higher level than we value the benefits from change and opportunity. So assets don't get replaced as often as they could.

Vest: I think that most people would agree with everything here. But the big unspoken question seems to be: what are the implications? Following your suggestion, I could easily imagine this line of reasoning as a key component in a psychological explanation of various anti-competitive behaviors/business strategies. But as an explanation only -- not as a justification. At what point does undersupply become "strategic" and constitute a de-facto restraint of trade

and/or barrier to entry? In the absence of compulsory bundling and/or some other artificial or naturally occurring SMP across any bottleneck segment of the service delivery path, I guess the answer is "never." In the presence of such conditions, however, someone will probably have to make an "arbitrary" determination (i.e., one that by definition could never be accepted by all parties involved)...

Cowen: 3) The use of information technology in business systems makes them more productive, and many of the productivity gains come from process innovation. This means that the customer may be able to take time out of its innovation cycle and become better at competing. A great example is the Fiat company. In the past few years Fiat invested in ICT and reduced its time to market for new models by 6 months; taking a dramatic 30% out of its new model development cycle. Was this kept as a profit for Fiat and its shareholders or passed on to consumers in the form of new products designed to meet the changing customer demands: I think the answer is both, since the gain to the firm is not a 'one-off' and the consumer has seen the new models. How is this valued as a return on capital or return on assets? I don't think it is. We are supposed to talk about 'total shareholder re-

turn' and trust that financial markets will see a more efficient firm and value it accordingly.

All of this makes perfect sense, given the fact that Fiat plays no role, significant or otherwise, in the provision/availability of any segment of roads, rail tracks, air routes, etc., and also does not enjoy SMP in any of the CPE (equivalent) markets that derive their entire value from the existence of unobstructed, end-to-end, land/air/sea paths.

Vest: All of this makes perfect sense, given the fact that Fiat plays no role, significant or otherwise, in the provision/availability of any segment of roads, rail tracks, air routes, etc., and also does not enjoy SMP in any of the CPE (equivalent) markets that derive their entire value from the existence of unobstructed, end-to-end, land/air/sea paths.

Cowen: I think that the firm has improved from the above innovation but it is going to far to say that the productivity gains have been wiped out; they continue to exist and will endure for so long as they are the latest innovation in the industry; the process is dynamic and continuing so has to be continuously improved upon so in one sense is never ending but not wiped out until the industry has all adopted the innovation that

gave rise to the competitive advantage.

Vest: Again, all perfectly sensible. However, the question I was trying to highlight in my previous message was more along the lines of: where would investors interests lie? -- And what strategic/business model adaptations should we expect the (strong) influence of financial markets to induce? -- in cases where some combination of opacity (lack of transparency) and artificial or naturally occurring SMP actually gave Company X the power to internalize all of those productivity gains? If managers are motivated to please investors, and investors are most pleased by some combination of net revenues first, growth/market share second (i.e., they are neither short-term speculators, nor infinitely patient aspiring future monopolists), then are managers like to under- or over-extract the gains from those technological advances?

Cowen: The fact that the financial markets cannot value something does not mean it is not valuable.

Vest: I could not agree more, but your statement has (at least) two plausible interpretations. My personal experience has been that some ambitious managers, which over the last decade or two has been synonymous

with "managers whose compensation is now or in the future could be significantly increased by their receiving credit for a major cost-cutting or revenue-producing change," will respond to Moore's Law-driven opportunities by seeking to capture 100% them -- if not more. When they succeed, they tend to get promoted, and as a result of the corporate evolutionary scrum I imagine that this particular cohort is well represented in the senior-most management of many tech companies that benefit from ML effects. If I'm not off base here, that implies that financial markets cannot assign value to some valuable things because, in some cases, that value has been fully or very nearly fully (+/-) internalized.

And if I'm not entirely off base, this fact would not be altered much by a shift from RoE to RoA.

Cowen: Incidentally, my guess is that some of the biggest productivity gains from adoption of information and communications technology should be in government in terms of delivering services to society in a more efficient way. Here there are enormous opportunities provided the governments and departments are clear about the services they are delivering and their mission so that they can adapt and provide those services in ever more

efficient ways.

Vest: It's a reasonable assertion. Assuming you are correct, what do you think are the implications? Some of the most obvious ones (to me at least) would seem to be at odds (e.g., greater efficiency > lower cost > reduced taxation requirement, vs. greater public dependence > broader, stronger requirements for transparency, accountability, security > tighter regulation)... What do you think are the most important implications?

This is no mean feat since they are often unclear (on purpose) about goals objectives etc for fear of being caught out. Politics thus thwarts technological progress and society is the poorer for it. In many ways this is the same problem as revenue assurance in 1) above; the customers' needs require greater definition both in terms of the service required and the amount that we are willing to pay for it. The services in the cellphone/mobile phone industry is one where the definition of technology and revenue has been done; where has that been done in other industries or government?

Earlier Vest: I think I see more commonalities than you do. In both cases, costs are not completely transparent, and the services are not 100% defined and guaran-

teed (although "best effort" for broadly defined services is usually "good enough" on both sides). The disjointedness of revenue and expenditure streams is often (always?) intentionally leveraged to cross-subsidize whatever the management and board agrees is important enough to merit a subsidy. Post facto, If the market disagrees with the particulars of the subsidy arrangements (assuming that they are aware of them), they have the power to punish the bums either indirectly or directly, i.e., by throwing them out. Actually, it seems like gov comes out pretty well in this particular comparison ;-)

Cooper: Attached is a brief essay I wrote a while back using the framework outlined by Albert Hirschman in a little book entitled "Exit and Voice" to describe the expanded role of consumer sovereignty in the digital economy. It echoes Tim's themes.

Cowen: One thing I forgot to mention; return on assets may lead to gold plating the assets.

Cerf: That was the problem with return on investment regulation, was it not?

Technologies of Flocking

Technologies of Flocking, by Jaap van Till, NL June 28 2009. (TrimO)

"Only from the heart can you touch the sky." Jalal ad-Din Rumi, Persian Poet

No, they could not twitter Ahmadinejad out of his presidential palace, but the Iranian netizens did surely demonstrate that the internet is mightier than the pen, to paraphrase the famous 1839 sentence of Bulwer. A new and wired middle class is waking up. There are now 34 million women in Iran, of which more than 70 percent is below thirty years of age, who have shown on the net that after 30 years of this regime that they no longer want to be treated as objects. Out of respect for them it is interesting to take a closer look at what is happening online and why. Some things have really changed irreversibly in Iran and the netizens there deserve a monument for that ((see illustration)).

So the heavy use [1] of Twitter birdtweets (short messages) by Iranians and expatriates showed how much social and political impact networking technologies can

have besides the commercial and economic impact of Internet technology we discuss on the Arch-Econ list of Gordon Cook. Social media is more than just a "nifty" thing now. Real people connected to real people are changing the world. This short paper tries to give a bit more perspective on (1) what civilians can do with net-tech during rebellions and (2) how they organize themselves to empower themselves and each other.

You surely will have noticed [2] from the post-election (June 12) protests and turmoil in Iran that the combination of on the spot cell-phones and photo's and films on the Web may in some instances be more effective than kalashykovs and axes against demonstrators. This fast communication of short group-messages is a handy way of sharing info and synchronising actions and demonstrations.

At first the authorities had not noticed this social network and thought that they had blocked the demonstrators by taking out part of the internet and the SMS traffic in Iran. The authorities tried to stop the flow of informa-

tion out of the country from cellnets and webpages in every way they knew of. And still the images get through. It is not wise to tell too much about how this is done but part of the parallel worldwide internet paths are kept open by volunteers that installed proxies [3] faster than the authorities could stifle them. The massive use of simple and powerful technology in the hands of the people (**aka ppl**) turns out to be unstoppable. As are the shouts of the slogan of the 1979 revolution from the rooftops at night.

This has been done before, and every time ppl have found another clever telecommunication system to collaborate p2p and to bypass government info-blockades to the outside world. Information technology changes the balance of power between civilians and their rulers. Each time they surprised and baffled the authorities by audacity and unstoppable technology. Some examples: (the net tech shown was often used in combination with other tele-tools and many other old fashioned and proven mouth-to-mouth links are present everywhere)

- a. The Pirate Bay movement and political party in Sweden: blogs from the courtroom and a clear rebel messages.
- b. Blogs from disaster sites by those present being better informed and faster than the media reporters.
- c. Belgrade, Internet Radio relayed from Amsterdam.
- d. Gdansk Solidarnost: Walky-Talky radio links and donated faxmachines.
- e. Vilnius: FidoNet dial-up email linked bulletin boards + international links and CNN Satcom.
- f. Mexico Zapatistas: Citizens Band radios
- g. Moskow counter coup against Gorbachev was defused by the NREN networks
- h. Bucharest : the TV & communication tower was constructed to be defendable but the rebels where inside.
- i. The present Iranian clergy rulers overthrew the Sjah regime in 1979 byaudio tape distribution. Every week the Ajatollah Khomeini in Paris recorded a sermon which was smuggled to Iran on a audiotape with for instance Elvis on the cover. Then these tapes where copied and copied and copied until every mosque tower in the country could sound it on the loudspeakers for all in the country to hear.

What are the recurring patterns from all these uprising cases? As a scientist I do not automatically sympathize with every protestor or all

these movements described, but what appears is: massive unstoppable free flow of relevant messages that show reality by and between those present and bypass the authorities and invalidate the official broadcasted version of what ppl are supposed to see and think. The central officials are often faced with a dilemma with openness and would rather isolate the rebels: to block communication channels would harm the publicity, command & control links of the state too and would harm education and economy. So what is happening that can make a few thousands of twittering young boys and girls in Tehran so important?

Long before Internet, ICT and telecommunications started be be in such a vital infrastructural position, the visionary Ted Nelson already described [4] the liberating effects personal computing and messaging would have.

j. In the early 2000's young volunteers of the Open Society Institute [5] helped to establish new economic, social and cultural life flows in the former USSR countries with the help of computers and networking. George Soros, its Maecenas, was certainly conscious of the powerful role of young professionals using linked PC's can play for a post dictatorship open society.

So what happens during the use of these powertools? Recently Clay Shirky explained very clearly the shift in communication patterns from 'central' to 'lateral' in a spectacular recent speech [5] on TED, as far as I know before the recent turmoil in Iran, and he did see this trend coming in his book [6]. While the established view of many people about Internet is that is a new vertical broadcasting to the ppl (I) medium for PR, news, high attention celebrity gossip and commerce; side by sides with classical one-way distribution channels advertisements, newspapers and TV; a much more significant role is discovered by two-way vertical dialogues (II) of authorities and companies with citizens, clients. Not a bad idea to talk to your subordinates, what?! A famous demo of the power of dialogue was the sudden shouting back from the audience gathered to hear yet another lengthy monologue from Ceausescu on December 21 1989. He was baffled. What in 2009 takes and took many by surprise is that a third form of communication: horizontal/lateral collaboration (III) between ppl is a much more potent stuff. **The essential change from I and II is that now the communication is not only between controlaholic rulers and individual citizens but the latter organize**

themselves ad-hoc into close knit groups/teams which we can call "flocks".

k. The Obama pre-election campaign heavily used tele-com and internet for I, and II, but exploded with bottom-up success in III "grass roots Community Action". This campaign surprised many with the power it had of mobilisation of voters and end-user innovations. Obama did not only talk to the ppl and with the ppl but they locally flocked together into strong teams with lateral P2P links between themselves. Bands of new middle class activists/troupes that clustered/ coagulated around certain tasks and issues with the help of internet networking and by finding volunteer-specialists who could help solve problems.

What these flocks do is P2P value creation. Groups of professionals and connectivists, each of them very good at something with unique skills and knowledge interconnect at a site and/or on-line to design something, solve problems together or crate new idea's or concepts by synergy from mixes of available idea's or skills. Working network relations are more important than ego or position. On a larger scale this synergy happens in new value chains between specialised small companies in the new network economy.

[More] Problematic is that "managers" and bureaucratic planners are in this new (III) context less relevant or at least not at the core of the primary process anymore. Often they fail to grasp what is going on. Clueless. Or if they do try to simplify, linearize and freeze the new living complex, nonlinear and dynamic situation by imposing even more control and red tape, which puts them in a parallel bureaucratic universe of 'nowhere men' which may fade away sooner or later.

The power of flocking via networks Broadcasting has a network effect in the sense that for the maker of the publicity and for instance the state propaganda (see (I) above) the value of the medium (1:N, one to many) grows with the number N of readers/viewers (eyeballs). This is Sarnoff's Law $V \sim N = 1+1+1+1+ \dots$, which is additive, and in some cases of celebrity fame addictive. Communication (1:1, one on one dialogues) between N people grows in value for the network provider as $N * N-1 = N$ squared, So it is stronger and more valuable than broadcasting N. Content is not king !! This is Metcalffe's Law. A better version on this law is the Odlyzko-Tilly's Law: $V \sim N * \text{Log } N$. And state dialogues with citizens (II) are also valuable but only N to 1 which is also additive. The third networking law is

that value for the participants themselves is growing by being able to be part a number of tribes or flocks at the same time on- and offline which was defined as Reed's Law which is Value ~ 2 to the power of N, which is the amount of flocks you can be member of / or not at the same time. I have defined a fourth law in which the value for each participant grows with N ! of unique and different participants and idea's ! you can collaborate with is a number of combinations [8]. Van Till's Law of synergy by network combinations: Value $\sim N ! = N * N-1 * N-2 * N-3 * \dots * 1$. To summarize for those who whose eyes glaze over when confronted with math formula's, the above simply says that propaganda and top down control (I) only grows in power additive $1+1+1\dots$, hence their craving for mass audiences. And on the new side of network society value for each participant grows multiplicative by connecting flocks of unique and creative professionals (III) who can organise themselves. Their combined network power is stronger!!

Network power grows by leaps and bursts. One of the first scientists who studied the emerging phenomena of the coming "information society" was the enlightened Prof Tom Stonier. In a groundbreaking paper [9] he (double logarithmic) charted the

teledensity, then fixed telephone lines per 100 inhabitants, in a number of countries versus the average BNP. These two are highly correlated and show a remarkable range of different incomes and teledensities. But what is more important that countries which over the years broke through the threshold of 20 phonelines/ 100 inhabitants all changed regime. **Stonier stated "no dictator can survive for any length of time in communicative society (III) as the flows of information can no longer be controlled from the centre (I)"** In this paper he did rather precisely forecast the fall of the USSR around 1990. He later explained that the teledensity was just a measure of a new middle class of Wired "knowledge workers" appearing, or what we now would call the online highly educated young creative class alive on bandwidth. In fact, during an interview, one of the generals in Moskou who tried and failed to deliver a counter-coup (g) said that he was baffled by a totally new type of workers/activists on the streets: young knowledge workers!. So a certain density of internet & cellphone connections must be present to make the transition on a wider scale in a country. So the process of renewal is discontinuous once thresholds are crossed. And on the charts of teledensities of cellphones

and FttH there will be several such distinctive thresholds in flocking behaviour. And the transitions are unstoppable.

No new network society innovation can happen without rebels. Whether vested parties or companies like it or not, these transitions do appear in various breakthrough disruptive innovations as well and also businesses start to think in terms of co-creation of new products and services in a process which is driven by black swan rebels and activists. Prof. Rao of Princeton University wrote an interesting account of these activist movements in his recent book [10]. Rao quotes the advice a famous American social community organizer Saul Alinsky (1909 - 1972) gave to rebels active in mobilizing communities to act in common self-interest in the form of four rules to link hot causes and emotions: 1. Pick the target, freeze it, personalize it, and polarize it. The opposition must be singled out as the target and "frozen". **2. Ridicule is man's most potent weapon. It is almost impossible to counterattack ridicule. It also infuriates the opposition, who then reacts to your advantage.** 3. Never go outside the experience of your people. When an action is outside the experience of the ppl the result is confusion, fear and retreat. 4. Whenever possible go outside

of the experience of the enemy. Here you want to cause confusion confusion, fear and retreat. I think it can hardly be a coincidence that both Barack Obama, now President of the USA and Hillary Clinton, now Secretary of State (minister of foreign affairs) both were students of Alinsky, so they will be, I assume, very much aware of flocking network power all over the globe.

So cellphones and internet-connected laptops are not politically neutral stuff, in the hands of the emerging class of young flocking netizen professionals they will be more powerful than destructive men with motorcycles, clubs and axes. Thus the little birds will not only twitter and tweet but will also flock in networked groups and then they will suddenly swarm up high above all of us. I wish you good connections.

For the footnotes grab the entire paper at <http://www.vantill.dds.nl/flocking.html>

Conal Henry: This is an incredible piece of analysis and I think starts to capture how and why new communications are going to change the world.

One thought strikes me as you talk about the power of ((III) type) horizontal or lateral communication, given its

reliance on multiple distributors to multiple networks then the more inherently appealing/powerful/right the message the more impact it will have.

Unlike the other forms of ((I) type) Broadcast and ((II) type) central dialogue - ((III) type) communications (which can suppress the opposite view) will only work if the message is powerful, it will be impossible to communicate any old cr*p widely using this platform as it is, in effect, self-censoring. As I think about this I start to realise that this is a completely new, active, form of democracy and one for which "the machine" is not prepared.

Bringing this back to my own life experience I think that access to this communication platform could, potentially, have prevented the 30 year "troubles" in Northern Ireland by exposing the unjustness of British rule and the subsequent unjustness of the resulting IRA lead tyranny early and easily.

The world cannot ever be the same.

Cole: However -- we need MUCH more development (IMHO) of the means for encouraging, supporting, analyzing, and responding to such P2P conversations.

Wikipedia is one such technology; Sharepoint is another. I think the attempt to develop questions for the FCC chair nominee by offering 19, asking for comments on those, plus suggestions for others, is another.

We have had decades to develop techniques for conducting and analyzing surveys; we need similar development where the goal is identify new policy alternatives, analyze them, and hopefully reach a decision about moving forward.

The blogs have learned to offer a place for comments; government agency newsletters, even the electronic ones, have yet to do the equivalent at anywhere near

the same percentage (that is almost 100 percent).

van Till: I got my paper online now at my own site and several other sites will post it later today. Feel free to forward it to whoever you like who is interested in the political/social effect of netizens & technology. The title as you may have guessed is an allegory on the famous "Technologies of Freedom" book of De Sola Pool, but he mainly fought for the free flow of information of the press and other broadcasting media.

The NOFA - First Reactions

Estrada: Here's my first reaction.

<http://demandbroadband.blogspot.com/>

As you probably know, the Notice of Funds Availability came out today for the BTOP and BIP (sounds like a kid's cartoon show...) billions. It was an interesting first read, mostly to figure out how they defined the key criteria.

Broadband is defined as 768 Kbps down and 200 Kbps up. The good news is that, with limited funds, this really keeps the focus on areas that really have crappy service, if any. The bad news is that providers can bid this unbelievably lousy service level and "comply" with criteria. The only hope we have is that there will be enough folks that bid higher speed levels than those who want to bid the slower ones and the slow ones won't get funded. Keep your fingers crossed.

The BIP has more definitive evaluation criteria than the BTOP. Kudos to the BIPpers.

Cost-effectiveness for the BTOP local loop projects is based on the ratio of the total cost of the project to households passed. That just

seems dumb. Lots of cities with urban density will be very happy to see that.

The money chunks (available funds) are oddly constructed. It's not very clear why. The BIPpers have made all of their \$2.4B available, chunked out as \$1.2B for last mile projects -- remote or non-remote areas. Middle mile projects are allotted \$.8B. The BTOPers set aside \$1.6B in this round out of their \$4.3B. \$1.2B goes to infrastructure but only \$50M to public computer centers and \$150M to sustainable broadband adoption in this round. Kinda cheesy.

Underserved and unserved definitions require more study and a deep knowledge of Census blocks, last calculated in 2000. There is also a strange and weird condition of funding where after an organization has jumped through all the stage 1 and 2 hoops, the BIPpers and BTOPers will post their planned awards so the masses can object to funding if there is already service in the area awarded. This needs much further cogitation and I can see a potential of some very bad outcomes due to this rule.

It was good to see the 4 FCC principles and the rules for open networks. But, overall, it seems like a wimpy start to a national broadband plan. Seriously, 200 Kbps upload reminds me of some of the lyrics in Boom Boom Pow: "I'm so 3008, You so 2000 and late."

Feld: Plowing through. Some good and some bad. More good on policy, bad on implementation, which illustrates some of the key implementation problems -- particularly trying to do this fast in agencies gutted after 8 years of Bush and without their actual heads.

My quick summary.

Policy: Computer III is back on the table, but this "managed services" loophole frees providers to prioritize their own VOIP and IPTV offerings.

Speed: I am in the minority in thinking they played this right. There are too many good projects potentially excluded by allowing only speeds of 45 mbps or better (what the House originally proposed). I dislike relying on advertised speed rather than actual speed, but that problem needs to be addressed

globally because trying to enforce it here is too damn difficult.

Big telco& cableco win = criteria that skew to rural. No chance of a real competitor emerging, no embarrassing pilot projects anywhere folks subscribing for \$50/month for 7 mbps advertised can see.

Worst implementation issue: the artificial break between last mile, middle mile, public computing, and innovative programs makes producing the integrated programs that Commerce say they want very difficult. Also, the documentation of underserved by census block will be a real bitch and a half.

Biggest unknown: Who is the contractor from the mysterious solicitation a month and a half ago who will screen applicants?

Applicants Most Likely To Succeed: From my reading, the best applicant would be UTOPIA with a public safety element or projects such as Wally Bowen at MAIN. Go Wally!

Applicants Least Likely To Succeed: City of San Francisco.

Telco most likely to be screwed: Qwest

Telco least likely to be screwed: Verizon

Most likely bog issue for FCC based on these tea leaves: Special access, roaming, and other "middle mile" issues.

Biggest secret winner: Cablecos. They will benefit from special access reform but TV Anywhere is now a "managed service" they can prioritize over other video traffic.

Cerf: the definition of broadband sucks so badly we should use it to sequester carbon dioxide.

Don Clark: I feel your pain. NZ has committed to 100mbps to all schools within 5 years. (maybe with the exception of a handful of very remote ones). This is a White knight project to drive fibre into remote uneconomic communities with the help of subsidies.

Rood: Consequently, the real issue is simple.

If you genuinely want to get the case for an open fibre network, you have to create the demonstrations in a non-municipal, corporate setup. Not by municipalities, but by a team up of say an equipment manufacturer, a construction company and an outside investor (funds from Intel Capital, Google etc.?) that want to put the stuff in and actually open up their books to show the real costs.

Only in that way one can start to challenge assumptions.

That sounds more like a deliberate act of business development from the tech industry with some construction companies, than a municipal project, although a municipality might be very happy to be the location of such a demonstrator project and facilitate it.

One of the genuine issues around broadband is that most operators have the strong urge to keep the real costs hidden.

I recall that our regulator OPTA had put Analysys Mason to task last year to calculate KPN's FTTH cost on the fibre plant and came up with an €18 pro month figure for a fibre loop pair and our regulator was quite surprised to learn that Reggefiber and GNA could do it for prices in the €12-14.50 range.

An "open accounts" demonstration project in a model town at real prices may benefit the tech industry, far more than attempts to sell to the incumbents. But surely incumbents would not like that kind of ultra-transparency effort, it is mainly in the interest of construction companies and those who want to make a point about real bandwidth / network costs to carry their

advanced applications or hook their new devices onto.

So do not count too much on the well-known major equipment suppliers to step in with the demo in a model town, they are very wary to distort existing relations with incumbents and will not pilot, except with an incumbents OK.

Only with some demonstration / example already in, you can get the kind of support for something like a Broadband Data Act. Connected Nation new that, that's how they tilted the demand, by doing something at small scale and wow politicians' favor as well as roughly end-up writing that act above those who knew better but could actually only say "how to do it well" and not set the example themselves.

What genuinely surprises me is that there isn't hasn't been a joint initiative from some tech firms to get a better alternative to Connected Nation on it's feet, when it was obvious that they would get more or less a free pass if not competed with, by an actual challenger.

So is my conclusion right, that there is much more rhetoric among many tech companies, than genuine effort to get better alternatives? I think they could see the mapping coming from far

away and understand it's relevance. Or isn't the Broadband mapping in reality not that relevant and is the discussion on it's key importance quite a bit overstated so nobody could convince companies to fund creating an alternative to Connected Nation?

Editor's Note

From here things went steadily down hill.

Harold Feld on July 17: Will NTIA Smother BTOP In The Cradle? Why that would be a disaster for policy, and how to fix it.
<http://www.wetmachine.com/totsf/item/1591>

More and more, I'm feeling like a volunteer for the "Mark Sanford in 2012 Committee" finding out what "hiking the Appalachian Trail" really means. I have been a huge supporter of this program from the beginning. Even though I have had some concerns along the way, I have tried to keep the faith.

But the more I see about how this will get implemented, and the more deeply I delve into the details, the more I worry that a potentially great program capable of fundamentally altering our broadband future for the better to something so ridiculously screwed up that we will actu-

ally lose ground on both future funding and future policy.

The thing that finally broke my willingness to believe was this eyewitness report I got from my brother and business partner, Shmuel Feld, who attended the first NOFA Workshop held Tuesday, July 7 here in DC. A representative from RUS was explaining how applicants must fully document "unserved" and "underserved" at the census block level — but without access to any carrier data because carriers regard this as proprietary. Then, assuming the application survives to the NTIA/RUS "due diligence" round, the agency will invite broadband access providers in the area to submit confidential information to demonstrate that the area designated by the Applicant is not underserved or unserved. The applicant will have no opportunity to rebut any evidence submitted against the Application. From my brother's report, this prompted the following exchange:

From Audience: If we, the people, do not know where the (BB) structures are or what the penetration numbers are and the big companies are not sharing these numbers or can deny them in the second round (when it is convenient) under the due diligence investigation, then

how will we find out all of the information necessary for the application?

(Direct quote of RUS guy):
Well that's quite a challenge, isn't it?

The RUS guy's next line was a suggestion like "boots on the ground and canvassing a county" I could not hear him clearly because of the (I am serious) laughter.

OK, let me explain something

to anyone from RUS or NTIA reading this. Giving Applicants an impossible task is not a "challenge." It is a recipe for failure and a sign that you — NTIA and RUS — have screwed up big time.

MagicJack Business Model and Plans for FemtoJack

Cole: I would love to have comments from the list on the following article. Basically, the same firm that sells the "MagicJack" through Radio Shack (device that allows "normal" handsets to become VOIP through the user's Internet connection) is contemplating offering a "femto-cell" device that would convert existing cell phone handsets into "WiFi like" phones.

If, and this is a big if, the legal/political system would allow "femtoJack" users to avoid cell phone minutes -- because they are OFF the cell phone operator's network -- this could be a big game changer. If, like current operator femtocells, the operator wants the user to pay for the equipment that saves the operator network load AND pay for the minutes used -- I suspect it will not make any appreciable difference. At present, femtocells are only an economically bad substitute for an external to internal antenna system -- the user pays the operator money for saving load on the operator network.

**Game Changer?:
MagicJack's impending
'femtoJack'**

<http://www.voipplanet.com/solutions/article.php/3827416>

COOK Report: Cool idea.

Alexander Andreev is the president and CTO of SJ Labs - the company that among many other things did the original MagicJack software and has been a member of arch-econ since June of last year. SJ Labs was founded in 1999 in Solon Ohio and operates a Software Development Center in St Petersburg Russia. He is also founder and CEO of Softjoys.com. see <http://www.linkedin.com/in/alexandreev> and <http://www.russoft.org/directory/?profile=49> Based on what i found out during my renewal of my MagicJack license, MagicJack marketing and their business accounting are done from YMAX Corp headquarters in Palm Beach Florida.

Goldstein: From what I can tell from the article, Stratus Telecom (recently purchased by Magic Jack's parent company YMAX Communications, the CLEC) has posited how the FemtoJack would work, but does not have agreements with the wireless carriers yet. A femtocell oper-

ates on licensed CMRS frequencies, under the carrier's license, so you can't just buy a Femtojack.

COOK Report: What is not so widely known is that the MagicJack business model depends on the existence of the YMAX Corp CLEC that Borislow owns and that Magic Jack makes its money as an arbitrage play by arranging for the user's calls to go through the CLEC switches. Femtojack would presumably direct tons more calls through those switches flow very large additional amounts of money. I base these statements on comment by Scott McCollough to Cybertelecom about two months ago. To be precise April 22, 2009 4:30:56 PM EDT. I have known Scott for a decade - he knows what he is talking about. A very interesting business model which is perfectly legal. As Scott said "This is an access charge arbitrage play."

Levine: I don't get it. Mobile frequencies are all licensed, so a femtojack not run by one of the licensees is basically a cellular jammer, which the last time I checked was highly illegal. I sort of under-



The SJ Labs booth at VON in March 2007 during which time the sale to YMax was being closed.

stand the motivation for phone users to use such a device, although large minute bundles make users care a lot less about their phone usage than formerly, and I'm not sure how thrilled they'd be with a device that makes their phone outgoing only. (If the device doesn't register them with their carrier, they have no incoming service.)

I can also sort of imagine a carrier with a limited footprint, which means T-Mobile, who already offer a similar wifi device, being willing to work with them, but it's inconceivable that VZ or T or FON would tolerate a device

that interfered with their networks and siphoned off traffic.

What am I missing here?

Cole: You are missing houses like mine (stucco, with a cement block basement). I can receive calls inside my house, but people can not hear me unless I go above ground and stand near a window. So I would be a candidate for some item that would transmit and receive radio waves within my house (my WiFi router reaches from my

basement to my top floor just fine).

Levine: Yes, lots of people have crummy mobile reception, and I can understand why you would like such a device.

Cole: But I refuse to pay extra for a device that saves the seller much more than it saves me. It reminds me of the early ATM's -- they saved the bank something like \$90 per transaction, and me \$10, so they wanted to charge me \$3 or more. My response was to go inside and talk to the teller very slowly <grin>.

Levine: But I do not understand why you expect your carrier to allow anyone to sell such a device, which would siphon off billable minutes, to you.

The problem is that you don't really want better service, because you're not willing to pay for it. Right now if you pay \$10/mo you can get T-Mobile's hybrid GSM/Wifi service which routes calls over Wifi at home or at any of their public hotspots, and GSM elsewhere. For a one time \$249 you can get VZ's broadband femtocell, or one time \$99 plus \$5/mo you can get Sprint's. But if you're not willing to pay, why should they care?

I still don't get it.

Cole: I'm willing to buy a device -- I just think \$249, or \$99 plus \$5 per month is "too much" for a device that saves the seller money. At the same time, I am not asking that my minutes not count, since I am way below my max for the month.

I can get 100 Mbps Up and Down via fiber in my home right now, too, but the going rate is \$8000/MONTH! (yes MONTH). So wanting to pay less than current prices, especially when I am saving my supplier money, strikes me as highly reasonable.

What I do not get is why you think I am "unwilling to pay" because I want a lower price than the one offered.

BTW T-Mobile has other tradeoffs in my area, having to do with coverage once I am outside my house.

I have put myself on the list for Google Voice -- I can solve part of this problem by using it to direct calls to my landline when I am home, although I still like my Verizon device better than the cordless phones I have seen.

To my mind, if I am offloading signal from the network, my calls should be discounted or free. There are devices that use an external antenna to "bounce" signals to and from the outside to the inside, but these also require permission and do not save network load.

Note how Google Voice, if it works as described, may be yet another disruptive technology. I could use it to direct cell phone calls to my landline, or landline calls to my cell phone. I sometimes use my cell phone inside the house (near an above ground window) as it is a better cordless phone than I have found for my landline. Now if I could use it as a "landline" device inside my house, it would save network load. (As John suggests, now that my 20-something daughter is out

of the country, we never come close to using all our minutes.)

So -- signal relay is valuable, as is the various features of a cell phone for landline calls -- cordless, auto-dialing, etc.

COOK Report: The impression I have is that should the new FCC seriously change interconnect rates this would have a very major impact on Magic Jack cash flow. If I were advising Dan Borislow. I would say BE CAREFUL because this will enrage the incumbents and they will put huge pressure on the new FCC and we will then see whether the new FCC has nerve enough to anger the incumbents.

Goldstein: Intercarrier compensation has been on the table forever. YMAX is indeed an arbitrage play. I will admit to having other carriers who have figured it out too and are pursuing it. The initial round of VoIP operators seemed allergic to CLEC status, and depended instead on other CLECs. So Level 3 does a ton of money for VoIP operators, and it's the heart of CommPartner's business too.

YMAX operates the CLEC and makes the adapter (the Magic Jack). Since it also owns the switch vendor (Stratus Telecom), it is vertically integrated. Sort of a mini-Bell

System! :-)) (I'm mostly joking. The other CLEC that bought a switch company is Global NAPs, who bought Convergent Networks, but neither of them is doing particularly well now, so far as I can tell. A few CLECs roll their own, though.)

FCC rules have long distinguished between local and long distance calls; since the early 1980s, the regulatory model for the latter has been that the long distance carrier bills the subscriber and pays "access" to the LECs at both ends of the call. VoIP claims an exemption from access charges, which the Bells grudgingly tolerate (they play too), while the rural ILECs fight it tooth and nail and demand access. The FCC never had a clear rule. Local calls are supposed to be exchanged at cost. In 2001 (eight years ago last April), they opened a docket on "unified intercarrier compensation", which could have united the systems (i.e., abolished access). They were afraid to act, though, since ATT, VZ, and the rurals couldn't agree on a plan. In November, they put out for discussion yet another round of detailed proposals, for comment. So the new FCC will have to get around to this. Everyone knows that high access charges will come down or perhaps be united with local reciprocal compensation. It's more a matter of

how quickly, leaving a window for the VoIP arbitrageurs (who bill access on inbound calls and claim exemption on outbound).

COOK Report: A quote from the article Rollie picked up.

"You plug it into your computer, and now when you walk in with your BlackBerry, your iPhone, or whatever it is, that's your radio tower-so when you make an outbound call from your phone, it'll go out over the magicJack network, and if somebody calls you on your magicJack number, it'll ring your cell phone."

Goldstein: Technically plausible, but ringing a cell phone requires permission from the licensee (carrier) to use their radio frequencies.

COOK Report: The MagicJack network is Borislow's clec. its name is Ymax. <http://www.ymaxcorp.com/>

Now I have read the whole article. WOW!!! Just awesome. I hope they succeed but they better be aware that in doing this they are walking right up to the noses of the Verizon, Qwest and ATT dragon and smacking all three on the nose with a baseball bat.

Goldstein: Not really. They have femtocells too. What it does it unload their radio access networks. You are home,

you use your cell phone, and instead of going to the nearest tower, it goes to your femtocell and then rides your broadband Internet connection to the PSTN. Inbound, they might even reroute the call to over the Internet to your femtocell. So it gives them, in effect, a free tower with free backhaul. What's not to like? It's not as if most subscribers were paying for minutes anyway -- they purchase big blocks of airtime.

COOK Report: Dan Borislow has a house in Philadelphia likely not more than an hour drive from me. I'd love to interview these folk

Rood: John,

You might make a mistake on "all licensed" mobile frequencies. That is not everywhere the case anymore and you really have to go through all the details on spectrum plans, before you can make such a statement.

In the UK and the Netherlands, the so-called DECT-guard band, which is covered by your commercially available handset, has become license free for low power use to businesses. This is the band that was not put out for GSM-1800 licenses as it was adjacent to the DECT-band.

I have the strong impression that someone behind MagicJack has learned about

this possibility, probably from a femtocell supplier.

Under pressure from British large telecom users, this GSM-guard band has been freed up there three years ago. So you can install your femtocells and picocells that works for a GSM by configuring them to use a frequency of this unlicensed band.

In the Netherlands our Defense Telecoms Organisation has conducted a large trial with these GSM-Guard bands since early 2008. They have acquired an E.212 Mobile Network Code (first 5 digits of the 15 digit E.212 number on your SIM-card) and acquired access to interconnect traffic via SS#7 by contracting with Tele2, who advertises and routes signalling from and to their MNC on a global scale.

They have set up their own 2G/3G-core with two redundant servers. Those servers work over their own IP-network and they just hook-up the local femto- and picocells in their buildings on their LANs. These 2G/3G-core servers are in effect just the smallest IMS-servers, 1 Height Unit high (pizzabox), cost around €30k a piece and able to support up to 100k mobile handsets. Very, very affordable.

The mobile core systems and femtocells were supplied by a

firm that specialises in Private GSM solutions: <http://www.radioaccess.nl/en/>. They co-operate for Private GSM together with the English firm:

<http://www.privatemobilenetworks.com/> But their other suppliers are LGC Wireless (SS#7 softswitch and active indoor distribution equipment, an ADC subsidiary), IP Access (femtocells / nano GSM-basestations) and Coiler (repeaters).

The bottom line for the USA:

1. The FCC should seriously start to contemplate opening up E.212 numbering ranges for corporate businesses (operating a 2G/3G-core does not require a spectrum license, but maintaining such servers is definitely too expensive for a consumer or small business to contemplate. Hence the MagicJack service provider models. E.212 MNCs is a business market, just like operating routers with BGP is not a skill found in every firm's network department and not all businesses ask for AS-numbers)
2. The FCC should look after unused guard-bands (hint they are at the edges of the assigned blocks) for low-power femto/picocell use or create them.
3. There are sufficient numbers of arbitrageants around that will fill the gaps with installing systems to provide services for roaming / routing / interconnection.
4. A repeat-

ering / low-power licensing regime for indoor cellular solutions in buildings should also be established.

Cole: I wonder how realistic this is? (Hendrik also pointed out that the existing wireless licensees might object.) We do have exceptions for low-power radio in some circumstances, and these devices are likely to be used in situations where the radio signals will not "escape" to the larger environment (such as my basement). So what if a radio emission below a certain power, in contained environments, is deemed to be "non-interfering"? One, it could open the market to those of use "who want a pony" ie a cheaper femtocell, and it might be a breach in the dike that could eventually lead to FCC licenses for smart radios that use whatever spectrum but jump around to avoid interference.

As I said, ever the optimist.....

Rood: The point here is that these systems do exist and you can order them and they are also installed.

The really interesting questions: - are there already similar kinds of firms deploying this inside US buildings to improve coverage - If not, how is cellular coverage inside buildings then? - how is coverage done in particular in

large critical buildings like e.g. the Pentagon - what happens if firms start to import this in the US and just started deploying it, like what happened in several European countries.

Keep in mind that in some of these "active indoor" solutions there is a substantive effort made by the Network Manager of a business to improve coverage, but even the more passive - repeated solutions (so called "open coax") are considered wrong by mobile operators, but are difficult to trace as the radio-transmission is only visible when someone actually places a call or receives one.

I am in particular interested in whether large American businesses deploy this inside their buildings. Some of the firms are American, so I had the impression, that something is going on in this field in your country too.

Earlier **Rood** However count on that this will be the new "fighting" area between incumbent telco's and all kinds of new entrants, arbitrageants and also large telecom users. During the presentations made at the BTG Themedays by RadioAccess.nl explaining what they had put up for show, it was clearly remarked that the entire "Carterfone" experience since the sixties, including all kinds of obstructions on "harm to

the radionetwork" seems already to go in a déjà vu.

P. S. The <http://www.privatemobilenetworks.com/> website shows aside from field installation some rapid deployment methods via satellite uplink and e.g. femtocell/basestation in convoy, on navy ships etc.

Cole: WiGig Spec Could Change the In-home Networking Game

<http://nl.internet.com/c.html?rtr=on&=1,4js3,1,igfq,ebmt,4jvj,dyiv> [May 8, 2009] Industry leaders, including Microsoft, Atheros, Intel, and Dell have formed a new alliance to promote the WiGig specification, a wireless technology capable of transfers up to 6 gigabits per second.

Is this right? If "the last 50 feet" could be entirely wireless, would the world change? I put coax and cat5 throughout my house when remodeling, so this is not an issue for me, but I am guessing it may be an issue for all of us who do not remodel where we live....

Reto Bleisch: "...wireless gigabit comes with some serious drawbacks. These (fortunately) do not affect the gonads or cause 'roid rage, but they do mean that you won't likely be using wireless gigabit to transmit through walls. This is an in-room tech only, and therefore not a full

replacement for the various WiFi specifications..." Source: <http://arstechnica.com/hardware/news/2009/05/wifi-goes-gigabit-but-wont-go-through-walls.ars>

Partridge: Long ago (about ten years ago), I was on a team that looked at gigabit wireless in higher frequency bands (gotta know the frequency -- lower frequencies might get through walls).

We concluded you could probably put a small repeater inexpensively through door jams. WARNING: Paper study -- actual mileage would no doubt vary.

But, pragmatically, gigabit within a room, plugged into a Gigabit Ethernet wall sock, has advantages too.

July 21 Postscript from the Editor:

I have used MagicJack for a year. The early version was terrible. It has however gotten MUCH better. Good enough that I decided to renew my device for another year. I started on July 8th and succeeded only on July 20th after an absurd number of wasted hours. Perhaps ten hours in all. The customer service is beyond abysmal and their software would not take my credit card. Only problem it did not tell me the transaction failed. The busi-

ness model is brilliant, but sad to say it is run on the cheap. Two articles need to be added to the discussion.

Here is the first:

MagicJack forced to re-think its customer service

Sarah Reedy April 20th, 2009

MagicJack, maker of the small voice-over IP device made popular by late-night infomercials, today reached a settlement with Florida's attorney general over allegations that it charged customers for long-distance calling during its advertised 30-day free trial. Without admitting guilt, the company agreed to make changes to its tech support and reimburse the state the \$125,000 the investigation cost.

The investigation into MagicJack began last summer when the onslaught of customer complaints reached Florida attorney general, Bill McCollum. According to his office, the investigation found that the company did not properly disclose the VoIP device's limitations nor did it have enough customer service representatives on hand to deal with the issues with it. MagicJack CEO Dan Borislow said that the company has resolved 500 customer complaints since the investigation began.

As part of the settlement, MagicJack to institute new customer service practices, including a guarantee that all inquiries will be responded to within 24 business hours and a disclaimer on its Web site to clarify the requirements for a free trial.

MagicJack came on to the scene in 2007, promising prices as low as \$19.95 a year through an unlimited voice-over IP service. Since then, consumers have developed an acute love-hate relationship with the company – some just plain hate it, others will defend it to the grave and still others love the service, but just hate the customer service. The company has clearly been successful, selling two million devices in the first 11 months of business, but it also has shown that cheap service can't justify inadequate customer service. snip -remainder at <http://blog.telephonyonline.com/unfiltered/2009/04/20/magicjack-forced-to-rethink-its-customer-service/> Here is the second -- an article by Carol Wilson - one of the very best reporters in teleom: http://telephonyonline.com/residential_services/news/magic-jack-landline-replacement-0202/index1.html

Making sense of Magic Jack's math

Feb 2, 2009 11:04 AM, By Carol Wilson

Wireless substitution may be a lot less prevalent than many believe, if the Magic Jack voice-over-IP (VoIP) service is actually succeeding as its founder claims, said Bernstein Research analyst Craig Moffett. Moffett, known for diving into data and making sense of the numbers, has been focused on the residential access line loss numbers of AT&T and Verizon but last week turned his attention to Magic Jack, the consumer VoIP product sold through late-night infomercials.

(See what MagicJack founder Dan Borislow had to say about Moffett's reports)

In his report, Moffett cited published reports of Borislow's contention at the recent Consumer Electronics Show that his company has sold 2 million units during its first 11 months and is now selling at a rate of 250,000 per month. In a phone interview, Moffett said he isn't disputing Borislow's numbers -- only pointing out how they fit into a bigger picture.

Those numbers amount to 28% of the telecommunications industry's line losses last year, Moffett points out. Many of those lines were commonly assumed to have been lost to wireless substitution, which to this point has been measured by the difference between telco line losses and cable voice line

acquisition, he said. But if Magic Jack users are actually using that service to replace their home phone lines, wireless substitution rates are much lower than the industry is assuming.

The other explanation is that MagicJack buyers aren't actually using the low-cost service or they are using it for some calls but keeping their existing wired phone as well, Moffett said. "It could be what we are seeing is a lot of second-line usage. It could be that there are people who have gotten Magic Jack and haven't plugged it in yet or are just using it for some calls. It's hard to imagine that more than a quarter of all access line losses are going to one company and a late-night direct marketer at that."

Moffett admitted that, from the telco perspective, line losses are line losses, and this is "cold comfort for the telcos for whom the reason for line losses may not matter much," but adds that it's "important for any serious student of consumer behavior in the telecom sector."

MagicJack launched service in the fall of 2007, promising consumers who connected its device to their phone line that they could have phone service for \$19.95 per year. The company has continued to expand – as have some

complaints about the lack of customer service.

But Moffett is not examining the quality of MagicJack's service, only looking at its market success. He chronicles MagicJack founder Dan Borislow's history in telecom, which includes founding long-distance reseller Tele-Save, which once struck a \$100-million deal with AOL but later faced hard times and, at one point, a securities fraud suit which was settled. Borislow had left the company before its stock plummeted and

became a horse breeder at one point.

Borislow's genius is as a marketer, Moffett said. While Vonage and other consumer VoIP services tanked shortly after the cable industry swept in with its "digital voice" version of VoIP, Borislow has found a way to get consumers to see VoIP in a new light.

COOK Report: I had a very good customer service chat today (Mir

iam). But the one on Saturday wasted two hours of my time with promises that were not fulfilled. I finally got the credit card processed with a 40 minute phone call to a number set up for billing disputes that I found in Google. Three times i was told to use a different card. I have only one credit card. When the rep took the data from me via phone, low and behold it worked. (I have copies of both chat sessions.)

Google Chrome, the Netbook, and Enabling the Cloud

Van Till: Since I am curious about your, and especially Vint's & colleagues, reactions I post here my analysis of what is going on. It was posted on <http://siliconinvestor.advfn.com/readmsg.aspx?msgid=25778904> as well.

The New Large NETbook Is "Das Dumme Komputer", by Jaap van Till, NL

Most reactions in the press to the announcement of Google that it is working on a the new Chrome OS are rather superficial and aimed at the general public's perception of the PC. About less hassle, less cost, better collaboration with the intended power and simplicity of the new Web-browser based apps & cloud-computing. But the analysts miss at least two strategic points, important to investors, providers and telco's as well. What Google and others are trying to achieve is to split the present desktop PC into two parts: the display of the applications (on any smart device) and the processing and storage (somewhere in the world on server

farms in a cloud on Internet). This blowing up of the clumsy and bulky "MS machine" has been described by me in a blog some months ago about The Stupid Computer (in German Das Dumme Komputer) in analogy of The Stupid Network idea of Isenberg where most network-services have gone to user devices AND more central server farms. Isenberg's trend showed a vacuum appearing in the networks of the providers, I pointed at a vacuum appearing in the place where the Desktop PC is now. This trend is also known as Virtual Desktop Infrastructure or VDI but I think that is too vague.

This new trend is driven by the fact that if you have sufficiently fast Internet connections, preferably through LANs and local access FttX, it does not matter anymore where the hardware of the servers are placed. And you can split the PC's hardware into display and storage & processing parts. Fttx optic fiber broadband is a precondition for this since you need the speeds between the parts to be similar to what you were used to when they were in one box under your desk, connected by the backplane computer-bus inside. But then the internet connections must have the speed (bandwidth peak capacity) of a computer backplane all the

way from your display to the cloud of server farms that process and store your data. Fiber-to-the-X is therefore a precondition for the success of Chrome OS and other Linux based Net architectures like this.. Some may argue that by sharing documents and data in a cloud the huge down- and uploading of copies will result in less volume of datacom and therefore lower bandwidth consumption. That may be the case but my point is that not the volume but the URGENCY of data traffic between distributed computer parts in clouds will drive bandwidth demand!! The new bursty bus traffic on the net for Chrome OS is between computer cpu's who do not want to wait like humans for response on queries.

Google wants the applications for us to run well and FAST remember! Chrome OS will eat bandwidth but if you are well connected like we are in NL that is no problem.

Marti: Not a lot of details out there about Chrome OS, but if they're planning to make it viable for laptops, they've got to make it viable over weak cellular links and random coffeehouse APs. Gears is probably a step toward that.

http://code.google.com/apis/gears/articles/take_app_offline.html

Gears for storage, plus the fast JavaScript engine in the Chrome browser, plus possibly Native Client (<http://code.google.com/p/nativeclient/>) for even faster components -- Google is not counting on networks to get better.

If you add all the Google open-source stuff together, you don't get VNC, an X terminal, or an IBM 3270. You get a PC that happens to do its persistent storage at a Google data center, instead of a local drive, by default.

Van Till: A second point which is IMHO misrepresented by the analysts is that Chrome OS and similar Web-service oriented architectures is specifically for SMALL and cheap Netbook computers. The new OS will run on any well connected end-user device which can handle a web-browser. From iPhones to smartscreens everywhere. From small to large screen. The cheapness and simplicity comes from the fact that most processing and storage are taken out.

Marti: Storage yes, processing no. The business logic of a big application ends up at the data center, but that's just part of all the cycles that a modern browser uses. Google has every incentive to make the client do as much of the processing as possible,

and to make everything work on the average connection of today or the slow connection of tomorrow.

Collaboration software is getting smarter faster than network latency is getting shorter.

van Till: Which does not make some computer manufacturers happy. Yes the present NetBooks/ NetTops do have small screens, but there is no real reason for that other than cutting costs even further for schools and portable use. My guess is that BIGscreen NetBooks will appear soon and even Multi-Tile Display versions for the office and at home. These will need Gbit/s netspeeds but that is another story.

Cole: I feel the need to repeat my "child of the 1960's" comment. I do NOT want to trust ALL my storage, and ALL my processing to "da Man," no matter who he (or she or it) is. And with even Google going down for hours at a time, having the CHOICE of where to store or process is valuable, even for those with more trusting politics.

Dumb terminals, IMHO, are a dumb idea. So there! <grin>

Goldstein: Yes, I always wonder why they keep on reinventing timesharing.

In the 1980s, they added GUIs via X Windows. X Terminals came out, along with what I called "workless disk-stations", but they didn't catch on. Cycles are dirt cheap; a \$150 video card now has 800 floating point processors on it, and there are even some APIs that expose them to non-graphics applications. I can see why I might want to put shared data on a secure remote site, but this would be the exception.

I'm still not sure what Chrome OS is. Some accounts say it's Linux. We need yet another Linux distro the way New Jersey needs more mosquitos. If it were a genuinely new OS, it might be interesting, but without a Windows API, it wouldn't have much desktop software to run on it.

July 14 **Van Till:** Thanks for the responses. In looking back you will all remember the endless rows over how to split the three tiers (display, processing, storage) in a shared data corporate environment over clients/servers/archives on the network. One of the mantras was to keep (business process) processing and storage of shared data in one place, to keep things under control and fast since the network links did not allow otherwise. Now we can migrate hardware.

Surely this 3 tier model is a simplification since processing and storage are everywhere. 3270 screens and VT100's were very successful but there is no turning back. That would be silly. In fact the most recent game consoles have graphics processor cards more powerful than we could ever dream. No doubt Apple, who broke through years ago by their trick to refresh the screen from memory for half of the cpu cycle, will come up with a mighty fast video tablet, but WITH fast cloud processing through the Net.

The point I tried to make is that since bandwidth is becoming more and more available (> 2 Mbps, symmetric, sustained) not only can we play with where what hardware box is, but even split the boxes in two parts (more decentral AND more decentral) as long as the link behaves like a backplane of the old box. We may end up with a stupid/virtual/dumme/ or should we call it a "Blonde" desktop computer (sorry ladies): wonderful to see the dazzling display but the real shared processing is done somewhere else: in huge

server farms optimized for power etc. That is the message I get from the way Google and others are moving. And yes, it will eat (neutral) bandwidth !!

A Note from the Editor on the September 2009 Format and Presentation

This issue leads off with an essay on Joshua Cooper Ramo's thought on strategy and survival in the 21st century. We write in the context of the long interview that portrays the strategy and history of the development of Arcadia as a Russian off shore software firm. The article is a tribute to a dear friend but offered me and I hope my readers a very interesting insight into the evolution of the offshore software business.

Coming in the October 2009 issue - out by August 30th, an interview done on July 26th with Martin Geddes on the mission of BT Innovate & design.

<http://www.btplc.com/Thegroup/Ourcompany/Companyprofile/Groupbusinesses/BTInnovateandDesign/index.htm> the focus of what JP Rangaswami and Al-Noor Ramji are trying to do is becoming much more clear and is very exciting. Google is still viewed as the chief competitor. Possibly in October and absolutely in November we will explore medical records and the internet.

Text, URLs and Executive Summary: I have attempted to identify especially noteworthy text by means of bold-face for REALLY good "stuff". Also the proper Executive Summary in this issue continues. I hope you find it useful. Feedback welcomed. You will also find live URL links and page links in this issue.. (I am also no longer changing British spellings of things like fibre to the American fiber.) Thanks to **Sara Wedeman** - see www.becgllc.com for assistance with the masthead logo. Captain Cook now charts direction by looking at a compass rosette.

I am omitting the contributors' page since a cumulative list may now be found at http://www.cookreport.com/index.php?option=com_content&view=article&id=121&Itemid=74

Letter to the Editor

Editor's Introduction: I started the Architecture and Economics of IP Networks mail list in April 2004. It has always been a private not for attribution list and members are warned not to send material outside the list without permission of the author. The first violation of this of which I am aware happened on shortly before April 22 2009 when Paul Budde said to the list that a copy of his email to the list wound up on the desk of the Minister for Broadband.

Despite a warning to the list about the April leak and a reminder that doing so was grounds for expulsion, on May 11 I received from Paul Budde privately another leak, namely the *Communications Day* article that I republished in the August issue. Since I was named as the proprietor of the list on which Paul was relying to help the Australian government build this new national fiber network, I was quite irked and felt under attack myself and took the matter public to the list. This initiated the discussion that I republished along with Grahame Lynch's complete text in the August issue on pages 27-32.

Grahame Lynch has written and asked me to publish this

reply.

"Firstly, a word of explanation as to why I am writing here. In seeking to expand my knowledge of how open-access fibre network advocates make their case, I sought access to authorities in the area – and a subscription to the Cook Report was, thus, high on my list.

The general thread of the group-think against yours truly is that I have embarked on a pro-Telstra tirade, and that I am a mere schill of the incumbent in Australia, reinforced apparently by one article asking an economist who has consulted for both Telstra (and the regulator) (!) to run some numbers on the proposed NBN and a selected quote from one interview with the former incumbent CEO.

So what else do I observe in the overall "indictment"?

No mention of the fact that I and a team of journalists generate 20,000 words a week of researched journalism that gives more attention to the affairs of Australia's 200 non-incumbent competitive carriers than any other media outlet in Australia.

No mention of the fact that I

actively solicit opposing views to my own – indeed we have published several pieces from Mr Budde himself this year, along with access seekers, FTTH advocates and many others from across the spectrum of industry opinion.

No mention of the fact that the column of mine posted by Mr Budde was preceded by another one which described him as a most influential man in telecoms – which Mr Budde himself said he found "flattering", nor that it was followed by a reply from Mr Budde, and several reader letters – some positive, some critical of Mr Budde.

No mention of the fact that for several years a major theme of my commentary has been criticism of a regulatory regime, that amongst other things, prices unbundled loop access in metro areas at half the rate of regional centres, thus mandating in POLICY a digital divide, and perpetuates a reliance on Telstra retail revenue cross-subsidies in framing wholesale pricing structures. Three years ago Mr Budde accused me of pro-Telstra, regulator-bashing in making such an argument. In repeating such an argument just last week in reference to how this regime might frustrate the transition

to a wholesale-only NBN, Mr Budde now praises the same sentiment and emailed his Digital Economy Working Group to recommend they read the article.

Perhaps Mr Budde can now recognize the nuance of my long-held contention that regulator-designed markets carry unintended consequences – such as how can one progress beyond them if one wants to upgrade and remake the network in accordance with the sensitivities of access seekers, consumers and investors? That my argument was co-incident with one thread of an incumbent's set of causes circa 2005-8 does not make me that incumbent's intellectual drone bee.

Neither would Mr Budde seem to countenance another inconvenient set of truths – the moral panic about the poor state of broadband in Australia which gave birth to its NBN policy was actually the creation of the PR department of the incumbent. Indeed, the current government went to the last election promising a government co-funded FTTN network that was based almost entirely on a Telstra powerpoint presentation from 2005. I was, and am, a long standing critic of this idea of Australia as a "broadband backwater" and particularly critical of the misleading use of poorly

framed statistics to make this case. That the then opposition took up the PR theme of Telstra, went into government and turned it on Telstra – largely because it misjudged that specific political party's instincts- does not take away from these facts.

Now let me turn to my apparent incumbent-inspired criticisms of Mr Budde's influence on policy. Unfortunately it is not as cut and dried as some here make out. The CEOs of two of Australia's major competitive operators publicly went on record to share their concerns about Mr Budde and the current policy vogues in Australia. Bevan Slattery from Pipe Networks operates one of Australia's major non-Telstra fibre backbones, and who with his new Guam-Sydney cable has done considerably more at his own personal risk to deliver competitive broadband outcomes for

Australians: <http://www.commsday.com/node/330> and Jason Ashton from BigAir, which offers a 100Mbps fixed wireless service using bonded WiMAX tails to businesses in some major Australian cities, again at great personal financial risk:

<http://www.commsday.com/node/331>

I admire both men greatly and if Mr Budde takes excep-

tion to me, well perhaps he should read and reflect on what they say. Surely he would not dismiss either of them?

Finally let me make an observation on the participants on this thread and, more generally, the "wholesale only, publicly funded open access FTTH network" advocacy crowd. They, too often, suffer from a tremendous problem of "groupthink", where the legitimate questions regarding business cases, costs and benefits, evidence-based policy and realistic assessments of the current state of broadband are swept away with slurs about "pro-incumbent attitudes", "Luddites" and the like.

When the Australian government effectively tripled the build cost of its proposed NBN to a world record US\$34b, Mr Budde said CommsDay was "scaremongering" when we reported the dreaded "Telstra-supplier" Henry Ergas' calculations that this might cause average tariffs to rise to US\$160 or so from US\$80 or so today.

But this isn't considerably more than the ARPU's generated by real-life FTTH networks in the here and now, and the analysis of others in Australia including two major stock broking firms (Southern Cross Equities and BBY) con-

curs with the Ergas analysis.

Significantly all three cited provided their methodological assumptions for criticism and scrutiny, whereas their critics such as Mr Budde provide no alternative analysis to the same evidence level.

Mr Budde speaks vaguely of e-health, smart grids and e-learning filling the revenue void but not to any evidence level that would satisfy a passer-by, let alone an investor – even though the government proposed to vend 49% of the network to private equity and finance much of the rest through market raisings.

I will not apologise for asking difficult questions and shining lights into the dark places where policy gets influenced, including the meetings that Mr Budde has with government.

If people like me don't ask these questions and demand evidence-based thinking, then the first major NBN policy experiments will INEVITABLY fail to meet their heady expectations and the cause of pervasive fibre access investment will be set back a generation. We saw it all before in 2001 – it's just this time the bubble is being fueled by taxpayer dollars and legislative mandate, and not share market speculation.

As one broker said to me "I'm sure the NBN will make money one day. Not just for its first set of owners!"

Mr Budde's most public response to such concerns about NBN economics was to stand up at a CEBIT conference in Sydney and accuse me of being a "Luddite". I'm sorry but I demand a little more substance and a little less insult if I am to sign up to his cause.

I note the criticisms on this thread about the economic interests of incumbents and their "suppliers" in critiquing "new wave" telco models. I note that some of these critics have their own economic motivations – they are employed directly by open access network operators or operate in the professional "advocacy/analysis/consultancy" sector that surrounds such activity.

[Editor's Comment: I believe that Grahame sees the world in black and white terms here that are two narrow. There is a larger national and public interest that can and should be served beyond and above private interests. This is a lesson that in my country since Reagan ushered in the dominance of free market fundamentalism has been forgotten and must be rediscovered.]

If one wants to diminish what

is essentially an economic argument by recourse to the perceived economic self-interest and bias of the individual making the argument, fine. But let's look in the mirror at the same time, 'cos I see the same self-interest at work here as well.

Anyway, I look forward to reading Mr Cook's newsletter as a new subscriber and unless personally criticised again, intend not to post and prosleytise but to read and learn."

Regards Grahame Lynch

Paul Budde has the following comment on Grahame's letter:

"I would like to let the results of the recent decisions made by both the Australian government and by Telstra speak for itself. True there will always be people who don't agree with that but so be it. People on the list can make their own judgments about Grahame's position on these issues."

Executive Summary

Arcadia Interview

On May 26, 2009 we interviewed in St Petersburg Arcady Khotin, our friend since 1994. Arcady tells us the remarkable story of how he survived and prospered using the Internet during the transition from Soviet Russia to his current role as owner and Managing Director of a 160 person strong offshore software firm.

The article covers the history and business model of Arcady's company: Arcadia. We see that to survive and prosper it was necessary for Arcady to be intimately familiar with the changing environment around him. We find that he has developed a management style very much compatible with that described by Joshua Cooper Ramo in his recent book *The Age of the Unthinkable*.

We learn that successful offshoring is far more than the delivery of code. It is, from Arcady's point of view, the development of a partnership with his company's customers -- one that gives them what he describes as an offshore development laboratory for their own company and one where acquiring a knowl-

edge of the business culture is as important as writing clean code. Both are necessary to do an optimal job in a globalized world.

Finally we see how it is possible by means of building a relationship with the customer based on empathy and detailed knowledge to go far beyond just writing code and begin to develop what can become processes of business consultancy. This is done while all time understanding the complexity of the interrelated decisions that must be made in order to ensure and ongoing successful relationship with major clients with whom in most cases, Arcadia has been working for more than a decade.

As far as our technology focus goes I would describe us as being a top notch specialist in major technologies on the Microsoft platform. Windows, both desktop and servers, and other application software for Microsoft. And even within these areas we are strongest in certain specialty subsets. **But overall our strongest point is people management, project management and business process organi-**

zation because this is the most important part. We call it PPP – People, Processes, Projects. When you want to organize an offshore software development laboratory for your business, you want the operational and business processes of the laboratory to match those of your own Corporation.

What exactly you want us to do by way of software development is usually not that meaningful. Code, quality, knowledge - this all is taken for granted. Nobody will give us work if they do not believe we can do it. *But can we do it the way they want it to be done?* Communicating - emailing, answering, making jokes, smiling - the same way the guy across the corridor from your office would do it. We need to create that feeling in you that we are good; that you can trust us, and that we will not let you down. Now, if you want some very specific skills we can supply them. And of course while we will develop what you are looking for, what we will also give you is people and a development process that can be finely tuned to operate in a way compatible with your own internal standards.

Symposium Discussion

Content Distribution Models p. 35

June 25 **Hendrick Rood:** So why is Disney or the NFL different than Elsevier Science and their contract with university libraries? snip

Feld: *Elsevier Science charges anyone who wants to pay for access. Disney gets the participating ISP to pay for everyone on its system whether they want the access or not -- in part because doing so is necessary or reduces cost on the video programming side. This must inevitably show up in pricing for all subscribers.* snip

Cooper: The Disney model is a classic example of anticompetitive bundling. Disney forces cable operators to put ESPN into ever home and charge every subscriber, even though three quarters would not pay the freight if given the choice, by bundling it with all the other ABC/Disney content it offers. Cable operators claim they would prefer the Elsevier model by occasionally threatening to put ESPN into a sports tier (wherein only those households that want it would pay for it).

Editor: And so on for a round robin through the regulatory jungle without I

think a decisive victory for a single regulatory point of view.

Return on Assets versus Return on Equity p. 41

COOK Report: John Hagel and John Seely Brown have come out with their first extensive report on the way the world works from the Deloitte Center for the Edge.

Here is a snippet of Cory Doctorow's take.

Financial shenanigans wiped out all productivity gains from digital technology Posted by Cory Doctorow, June 27, 2009 11:26 AM | permalink

The new report from the Deloitte Center for the Edge says that, "return on assets for U.S. companies has steadily fallen to almost one quarter of 1965 levels, at the same time that we have seen continued, albeit much more modest, improvements in labor productivity." Jon Taplin explains, *"any productivity gains from the digital revolution have been more than wiped out by our corporate (as well as personal) addiction to debt. To understand this, it's important to grasp the difference between return on equity (the classic Wall Street measurement) and return on assets...By masking their absolutely dismal*

performance in the last 40 years in ROA, by taking on more and more debt to juice ROE, both Wall Street and America's corporate elite are engaged in a massive shell game, in which the average investor is the mark." snip

The Shift Index (Deloitte Center for the Edge) <http://www.deloitte.com/dtt/article/0,1002,sid%253D227141%2526cid%253D266128,00.html?introlist>

Vest: I'm not sure that the switch to an ROA perspective would redeem us entirely, at least not in cases where the assets in question are capable of generating Moore's Law-like effects.

Technologies of Flocking p.47

No new network society innovation can happen without rebels. Whether vested parties or companies like it or not, these transitions do appear in various breakthrough disruptive innovations as well and also businesses start to think in terms of co-creation of new products and services in a process which is driven by black swan rebels and activists. Prof. Rao of Princeton University wrote an interesting account of these activist movements in his recent book [10]. Rao quotes the advice a famous American social community organizer Saul Alinsky (1909 - 1972)

gave to rebels active in mobilizing communities to act in common self-interest in the form of four rules to link hot causes and emotions: 1. Pick the target, freeze it, personalize it, and polarize it. The opposition must be singled out as the target and "frozen". **2. Ridicule is man's most potent weapon. It is almost impossible to counterattack ridicule. It also infuriates the opposition, who then reacts to your advantage.** 3. Never go outside the experience of your people. When an action is outside the experience of the ppl the result is confusion, fear and retreat. 4. Whenever possible go outside of the experience of the enemy. Here you want to cause confusion, fear and retreat. I think it can hardly be a coincidence that both Barack Obama, now President of the USA and Hillary Clinton, now Secretary of State (minister of foreign affairs) both where students of Alinsky, so they will be, I assume, very much aware of flocking network power all over the globe.

So cellphones and internet-connected laptops are not politically neutral stuff, in the hands of the emerging class of young flocking netizen professionals they will be more powerful than destructive men with motorcycles, clubs and axes. Thus the little birds will not only twitter and tweet but will also flock in net-

worked groups and then they will suddenly swarm up high above all of us. I wish you good connections.

The NOFA - First Reactions p. 52

Harold Feld on July 17: Will NTIA Smother BTOP In The Cradle? Why that would be a disaster for policy, and how to fix it.
<http://www.wetmachine.com/totsf/item/1591>

More and more, I'm feeling like a volunteer for the "Mark Sanford in 2012 Committee" finding out what "hiking the Appalachian Trail" really means. I have been a huge supporter of this program from the beginning. Even though I have had some concerns along the way, I have tried to keep the faith.

But the more I see about how this will get implemented, and the more deeply I delve into the details, the more I worry that a potentially great program capable of fundamentally altering our broadband future for the better to something so ridiculously screwed up that we will actually lose ground on both future funding and future policy.

Editor: Unfortunately Harold only scratches the surface. Some one or something got to these people during the month of June

MagicJack & FemtoJack p. 56

Despite horrible customer service MagicJack has been extremely successful selling perhaps as many as 250,000 USB based soft phone plugins to internet broadband users a month. (I have used the Mac Version for a year and just renewed.)

We discuss in detail plans reported in
<http://www.voipplanet.com/solutions/article.php/3827416>

Google, Chrome, Netbooks and Enabling Clouds p. 64

Van Til -- What Google and others are trying to achieve is to split the present desktop PC into two parts: the display of the applications (on any smart device) and the processing and storage (somewhere in the world on server farms in a cloud on Internet). This blowing up of the clumsy and bulky "MS machine" has been described by me in a blog some months ago about The Stupid Computer (in German Das Dumme Kompu-ter) in analogy of The Stupid Network idea of Isenberg where most network services have gone to user devices AND more central server farms.

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