

HavenCo: what really happened

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latest version and supporting docs at:

<http://www.metacolo.com/papers/dc11-havenco/>

Background

- ◆ HavenCo was an offshore datahaven created by several idealists on the Principality of Sealand, a tiny artificial island fortress in the North Sea which claimed sovereignty due to location and history
- ◆ Sealand was a WW2 anti-aircraft platform abandoned by the British in international waters, subsequently occupied by pirate radio broadcasters and declared a sovereign nation
- Status has been tested in minor court cases and affirmed, but no head-on challenge has ever been waged, and general policy of non-confrontation

Why this talk?

- ◆ While working at Sealand, it was difficult to see the greater context; minor issues seemed major
- ◆ Commercial concerns caused optimism (intentional and unintentional)
- ◆ Some issues have only recently been resolved; no one knew what would happen until recently
- ◆ Very little information has been made public; press has been carefully managed. Insiders have no incentive to reveal the truth
 - ◆ Now that I no longer work on Sealand, I can provide substantial non-NDA information to the public

☐ *On Confidentiality*

- ◆ Harm from discussing what happened is less than the risk to the public in continuing to operate without this knowledge
- ◆ Since the company is of uncertain operational status now, is there confidentiality for HavenCo
 - ◆ Anything covered by NDA has been independently re-discovered using only information available to outsiders
- ◆ I have no current access to any confidential information belonging to HavenCo or Sealand
 - ◆ Customer confidentiality maintained

☐ *"Mea culpa"*

- ◆ Major misgiving about the whole thing is not being more open with the public earlier about the underlying problems
- ◆ Certainly initially I wasn't keeping records and negotiating contracts as well as by the end; over-reliance on trust with business partners
 - ◆ Probably the media attention got in the way of good judgement
- ◆ Not sure if it will be easier or harder for the next datahaven as a result; hopefully quality for customers will be increased

Idea

- ◆ Laws around the world, and in the US particularly, with respect to privacy and Internet freedom have become increasingly restrictive
- ◆ By finding a sovereign state willing to agree to explicitly protect these freedoms, a data haven for servers could be established, allowing users around the world the benefits of this data haven

Idea (continued)

- ◆ High security server infrastructure, including cryptographic protocols and software to distribute and secure applications, would provide security in excess of what the location itself could militarily.
- ◆ Eventually, this model could be replicated in many centers around the world, making it impossible to go after a small number of targets
 - ◆ By making any restrictions upfront, minimal, and unchanging, and removing the ability to renege on terms later, there would be maximum certainty and freedom for users and no tough decisions for the operators

Founding

- ◆ In 1999, founders met in San Francisco to discuss plans and try to find a suitable location
- ◆ Negotiations with Sealand; visiting Southend and Sealand
- ◆ Raising angel funding from a small number of technology leaders (never successfully raised the full amount, even in the bull market of 1999/2000, due to lack of organization)
 - ◆ Ryan moved to the UK/Sealand, others moved to Amsterdam and Sealand to begin conversion of Sealand into a datahaven and prepare the business

Launch

- ◆ Launch with the cover of Wired magazine, which was done on an accelerated schedule, throwing off timelines
- ◆ Winstar UK failed to provision STM-1 circuit in time, leading to reliance on a single consumer 128Kbps tachyon VSAT terminal until winter 2000. This detail was not made public; instead, customers were deferred.
- ◆ Almost all time was spent dealing with press. No one took responsibility for sales, and there was no ticketing system, so basically all initial inquiries were lost or mishandled. (as has happened with many launches, such as DigiCash)

Launch (continued)

In late 2000/early 2001, 4xE1 circuits (8M total) from London Telehouse to Cliff House, a tall private office building visible on the shore of Felixstowe from Sealand, were brought online. A FreeBSD box with 802.11b point-to-point brought data out to Sealand at higher speeds for the first time in January 2001.

Initial customers were insiders personal boxes and a single offshore stock information source with multiple Windows NT web servers, already using other offshore colocation centers

Launch (continued...)

Press visitors to Sealand were told of the racks of machines filling the south tower lower leg; in reality, the 5 relay racks standing mostly empty above the NOC were the entirety of equipment.

Critical components of technical infrastructure (tamper-resistant server modules, redundant network links via multiple paths, etc.) were not deployed for lack of funding.

Lack of payment processing crippled new customers -- generally one was forced to incorporate in another location, get banking there, and once that had been done, rarely did potential customers come back to get a server on Sealand.

Administrative operations disorganized; no real accounting, and wages to security staff paid in cash from personal accounts

Departures

Two of the 3 founders left the company for personal reasons in late summer 2000 and returned to the US, leaving Ryan responsible for technical and sales, with Prince Michael of Sealand nominally in charge of the company, but primarily focused on his own fishing business

The company continued to consume money from investors, paid in small increments via Western Union and credit cards, as well as accumulated a very substantial expense balance with employees

Departures (continued)

Few new customers came, but by cutting costs (not paying salaries), HavenCo was basically break even in summer 2001 on cash costs, and thus by a marketing stretch, "profitable". Approximately 10 customers, primarily casino gaming

Rate of customer acquisition increased, and costs continued to decrease, so general trend was toward genuine profitability and success. HAL2001 was a high point of customer growth

Much cost savings came from Ryan living on Sealand full-time, responsible for all technical (non-marine/power generation and plant maintenance) and handling sales/bizdev/etc. while there. A sacrifice, but worthwhile for eventual success

Underlying problem

HavenCo was technically in breach of original agreement with Sealand government for not paying large cash sums on schedule to Sealand, due to reduced investor interest and no follow-on financing, but with Prince Michael as HavenCo's CEO, there was no rush to renegotiate, and there was a gentlemen's agreement that terms would be largely unchanged

Little did we realize what a problem this would become...

Coasting and Decline

In Fall 2001, an advisor to Prince Michael's father became involved. Initially, was to try to advance Sealand's claims of sovereignty with international agencies, due to experience interacting with those agencies.

Increasingly, this advisor took advantage of proximity to Michael to criticize the lassiez-faire attitude of HavenCo, and belief that it was a PR liability to Sealand's push for sovereignty. Additional expenses were also incurred, such as replacing the working 802.11b link with expensive telco Nx64 wireless bridge, and eliminating backup multi-path 802.11b and redundant connectivity, due to advisor.

Coasting and Decline (continued)

Informal and inconsistent restrictions were placed on HavenCo's operations, but largely ignored, in the truest form of banana republic. Reporters would often be given different stories by Sealand and HavenCo during interviews, with HavenCo going by the terms of original contracts, and Sealand and its advisor believing in the "norms of international practice and custom" and "nothing which would be offensive" (how British)

Coasting and Decline (continued...)

Most new initiatives during this period (anonymizing remailer, one of the most popular HavenCo services ever, discounted servers for open source projects, etc.) were undertaken somewhat covertly to avoid raising the interest of Sealand and advisors. Often customers were told after initial contact to avoid providing further details of exactly what they were doing, provided they complied with AUP, to avoid causing interest by Sealand.

Grumbling about applying taxation to Sealand-hosted companies and HavenCo

Coasting and Decline (continued....)

"If we were hosting a terrorist server, we'd cooperate on the sly with the authorities" policy; without adequate technical measures (tamper resistant machines, and at least encrypted disks), this was a very real possibility.

Financial stability of HavenCo continued to be questionable -- large new expenses, coupled with reduced potential for future business, and mounting unpaid debts to insiders.

Also, lack of formal operating agreement with Sealand, especially in light of new attempts to restrict business, was a major concern

Coasting and Decline (continued.....)

HavenCo had not issued stock to investors/employees/etc., despite re-incorporating for this purpose in Cyprus after moving from Anguilla. Concerns raised as to nature of delay -- bad faith, or just ineffective management?

Several large DoS attacks against HavenCo customers caused outages, as well as equipment outages. Some outages lasted as long as 3-4 days once the redundant circuits were removed.

Coasting and Decline (continued.....)

Bankruptcy of Winstar, vendor of the original 4xE1, combined with involvement of Sealand's advisor (also a telcomms "expert"), caused >2 month outage where connectivity was completely lost to Sealand. Within a week, a VSAT link was re-established, but customers continually complained about 500+ms latency and very low bandwidth, causing many to leave and eliminating growth.

- . Sealand people only present when press visits underway; otherwise it was 1-2 people, including Ryan

Selling out/Ultimatum

During 2002, several very large and potential profitable businesses came to HavenCo after extensive negotiations and tried to arrange hosting

One, an online movie rental business, met in London with Ryan, Michael, and Sealand advisors. They offered to host and comply with all laws, but were ultimately nixed by Sealand's advisors due to potential for negative publicity.

If Sealand was so concerned about negative publicity, did they have faith in their legal status?

Selling out/Ultimatum (continued)

If Sealand was so concerned about negative publicity, did they have faith in their legal status?

Ryan decided to depart in a gradual way through 2002/2003 and pursue other opportunities, after automating operations and creating an ongoing operations plan. With limited potential to bring in "acceptable" customers, and continued borderline profitability, HavenCo was at best stagnating. Lack of contracts and share issuance also a major concern.

Sealand decided to find a local redhat webhosting admin to try to assume responsibility for operations on a part-time basis

Selling out/Ultimatium (continued...)

My plans to establish a 10kg gold backed online electronic currency at HavenCo using anonymous digital cash technology shortly after DC X were nixed by Sealand; I was forced to avoid any connection between the two, and will wait to deploy until after other hosting is in place

"The Coup"

In November 2002, Sealand's advisor demanded the ticketing system for customer inquiries be removed, and customer mail handled by his girlfriend, resident in the UK. Particularly, it was demanded that all billing information be handled in the UK by this person, rather than on Sealand in an automated web-based billing system. (presumably as a preliminary to taking control of the company)

Ryan refused, on grounds of security, unless technical systems were put in place to protect customer confidentiality, or the CEO decided it was worth the risk after being informed. This debate continued for several days though email, and apparently there was behind the scenes scheming in the UK.

"The Coup" (continued)

After meeting in Philadelphia PA in late November, Ryan was surprised to learn that Sealand wanted to take over HavenCo. A mutually beneficial agreement was worked out, under which shares would be issued, debt would be repaid to all at an equal rate, and the company would continue to operate. Ryan would resell HavenCo services, as well as working on independent projects.

After the agreement, Ryan flew back to the UK, recovered personal belongings and handed over administrative access to designated people.

"The Coup" (continued...)

Within 5 days of leaving Sealand, Michael and advisors had broken the agreement; refusing to allow resale of services, attempting to enforce a blanket non-compete (when none was signed at any point, as well as being unlawful if so), and stealing personal servers on Sealand left as part of the arranged deal.

Shares have still not been issued; outstanding unreimbursed expenses are as far as I am aware not being repaid (I've not seen any of the USD 220k owed to me)

What Now

HavenCo continues to limp along, although as far as I am aware customers continue to leave, and few if any new ones join. This can be easily determined through IP address utilization on the 217.64.32.0/20 subnet, and specifically the 217.64.32.35/24 and 217.64.32.36/24 subnets)

metacolo, a 9-datacenter distributed replacement for HavenCo using tamper-resistant hardware, low costs, automation, and replication, is growing

While I could sue HavenCo and/or directors for breach of contract, etc., the cost would likely exceed the return, as HavenCo has no assets, and it would presumably lead to a negative resolution of the Sealand sovereignty issue

What now (continued)

As far as I am aware, all international organizations asked continue to refuse Sealand's claims of sovereignty. Perhaps this will change, and Sealand will some day be on the UN Statistical Bulletin, but this seems unlikely.

Is HavenCo "still alive"? (pro)

- ◆ Website (in US) still online
- ◆ Network mostly reachable
- ◆ Continue to answer email from prospective clients
- ◆ Sealand is still physically there with 1-2 people on it

Is HavenCo "still alive"? (con)

- ◆ No new customers, old customers leaving
- ◆ No shares issued or shareholder info/meetings
 - ◆ Large outstanding liabilities
 - ◆ Contracts and AUPs violated
 - ◆ Company registration lapsed
- ◆ 2Mbps of DoS traffic at 217.64.32.0/20 could shut the entire company down

☐ ***Best guess as to HavenCo status***

- ◆ HavenCo is probably effectively “nationalized”; investors will likely never see any return, barring lawsuits
 - ◆ Sealand will continue to take money from HavenCo customers and operate on a zero cost basis until major problems develop, or all existing customers leave
 - ◆ No substantial growth or change in business model
- ◆ Sealand will continue to only accommodate customers without PR liability, and may turn over information
 - ◆ No change in Sealand legal status anticipated
- ◆ Precarious situation for customers without other sites

Previous Sealand ventures

Ship registrations have in the past been done, and then retracted, leading to seizure of a ship by US authorities

Substantial fraudulent

Television broadcasting to SE UK from Sealand attempted and then withdrawn, perhaps due to concerns over legal status and ITU/UK response

Amateur radio day was scheduled, and then hurriedly cancelled, again due to fears of UK and ITU

Proposals to expand Sealand physical territory have come and gone

Even coin/stamp issues have not proceeded

Lessons Learned

- ◆ Political and contract stability is critical
- ◆ Technical costs should be spread over as many sites as possible
 - ◆ Ultimately, replication is key
- ◆ Customers want single point of contact for advanced services

Political/Deployment

Globalization is making unilateral action by a single state, even a fully recognized one, increasingly difficult

Even a small group of people in power will violate agreements if they are capable of doing so; for single-round games, only force can enforce agreements.

Many international organizations are very sly at rejecting claims of sovereignty, and drag the process out indefinitely

Sovereignty alone has little value without commercial support from banks, etc.

Technical

Once a flawed system is deployed, maintenance costs can rapidly balloon to higher than an efficient but complete system's total cost.

Customers don't often ask for objective measurements of performance, and have misperceptions of what measurements are indicative of their underlying interests.

Customers generally want to be able to get all services from a single organization, if possible (hence use of consultants), and need clear value propositions

Personal

Maxing out your personal credit cards to pay the salaries of random physical security staff at your company, then not getting reimbursed by the company, is annoying. (I still have ~USD 40k in debt due to HavenCo, and little hope of being repaid USD 220k in expenses from the company)

While working on an offshore datahaven is novel, being the only technical and pro-liberty employee in a larger company is a definite downside.

Promises that shares will be issued in the future, debts will be repaid, etc. are meaningless without documentation, and often are meaningless with documentation.

Publicity

Press often will report on what one another have already reported on; a single inaccurate quote will echo for some time through multiple sources.

Very few reporters are technically capable of verifying statements, and lying outright, or at least bending the truth, for commercial advantage is very tempting, but ultimately often bad. ("downstairs are more servers", is technically true, but it's a few 386es powered off, is borderline)

What next

Ultimately, I still believe in secure client systems, secure servers in secure locations (legally and technically), and secure protocols over available but insecure networks.

I plan to deploy or work with those who deploy each --

Deployment goals for future:

- ◆ Secure clients using free OSes and tamper-resistant PDAs and other devices
- ◆ Servers using hardware tamper-resistant modules, replication/distribution, and cryptography
- ◆ Server colocation in secure spaces within other carrier facilities legally advantages locations throughout the world, allowing users to tailor the regulatory environment to their application.
- ◆ Secure protocols and applications using cryptography

Deployment goals for future (...)

- ◆ Eventually, reliable and available communications using IP networks and possibly LEO satellite constellations, RF, and fiber.
- ◆ Support services to allow true location-independence and location-selection by all users -- anonymous electronic cash, and
- ◆ Specialized hardware devices for certain physical industries, putting crypto into real-world objects

What next

I'm developing the most profitable parts of this first, and using it to self-finance the rest of the operation.

I'm convinced we're seeing the accelerated of a lot of anti-liberty trends, and while education, publicity, legal challenges, etc. are essential, ultimately what will win or lose is deployed technical systems.

I'm currently traveling around the world, but will probably try to establish some kind of high-tech free trade zone in a friendly country in the near future, incorporating datacenter, office, conference, and housing space, fed with copious bandwidth, and with explicit legal protections for autonomy and status, backed by something real.

Projects I am involved with

- ◆ metacolo; improved datahaven, distributed, tamper-resistant, “meeting points” for secure traffic
 - ◆ Secure tech for corporate agents
 - ◆ nymserver for mixminion network
 - ◆ PDA crypto and VoIP
- ◆ Electronic cash – gaming, porn, offshore “underground” transactions, and offshore investing are major markets, something will eventually happen
- ◆ Tunneling technology – dns, http, https/ssl, ssh, ipsec
 - ◆ Some physical products for commerce

☰ *Other interesting projects*

- ◆ Continued evolution of open source software, operating systems, etc.
- ◆ Deployment of cryptography in more and more apps – TLS, particularly
 - ◆ Cheap access to space is undergoing a revolution
- ◆ Free State Project (<http://www.freestateproject.org/>)

Resources

- ◆ Sample chapter of book about HavenCo
(<http://havenco.venona.com/>)
- ◆ “Leave no trace” - Book/document on how to be anonymous on the Internet (
<http://www.metacolo.com/resources/leave-no-trace/>)
 - ◆ Mailing lists:
 - ◆ (metacolo and future projects)
<http://lists.metacolo.com/mailman/listinfo/>
 - ◆ (discussion of havenco, book, etc.)
<http://lists.venona.com/mailman/listinfo/>

Q&A