Niue’s .NU rebuilds after a Super Cyclone destroys the WiFi Nation
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By Richard St. Clair

A TINY NATION’S INTERNET HEROS

Back in 1997, Stafford Guest, Richard St. Clair and I decided to set up the private non-profit Internet Users Society – Niue (IUS-N) to manage the .NU ccTLD. The goal was to convince Internet users all over the world to register enough .NU domain names so we could pay for the equipment, installation, maintenance, management and connectivity costs for free Internet services for all the people of the tiny isolated South Pacific island nation of Niue.

During the seven years since then, the technical team working in Niue – technical manager St. Clair and development director Emani Lui – have been able to pull off miracle after miracle – starting with the island’s first free email service in 1997, followed by the island’s first full-time digital connection to the Internet in 1999 and, as of last June, launching the first phase of free national WiFi services in Niue. They were able to do all this in the face of hostile opposition from the government-owned Telecom, which wanted no free services of any sort to be available to Niue’s Internet users.

Last month, they achieved their biggest miracle — they were able to protect virtually all the Internet connectivity and WiFi equipment on the Island from being destroyed by a Super Cyclone named Heta that flattened the island, battering it with 300 km/hr winds and 30 meter high waves — a Tsunami that swept across the island, ripping apart the rainforest and destroying homes, cars, fuel tanks, and everything else in its path.

Just a few hours after the Super Cyclone passed the island, St. Clair had most of the Internet equipment back up and running, and Lui had much of the WiFi system back up and running. But that didn’t mean Niue was back online worldwide yet — it took 10 days for the local Telecom provider to find a replacement for its satellite antenna, which the storm had destroyed.

The story that follows is Richard St. Clair’s first hand report of what the cyclone’s fury was like.

– J. William Semich, President, Internet Users Society - Niue

a summer New Year’s day on Niue island in the tiny nation of the lower South Pacific, and the only visible activity around Alofi, (the nation’s capital) is the occasional Niuean emerging for fresh bread and maybe a liter of milk. Basically a typically quiet tropical summer New Year’s morning.

Today is the culmination of three months of hard work for the IUS-N technical team - myself and Emani Lui - to bring Internet services back to WiFi users in downtown Alofi.

We had finally gotten a clean WiFi connection to Alofi and are now ready to relaunch the free WiFi Internet services to the 75 percent of the island’s Internet users in that area.

We had to put in the new direct WiFi connection to Alofi because the government-owned Niue Telecom service had disconnected the DSL copper-cable connection from IUS-N’s technical center,
where the satellite Frame Relay connection links Niue to the Internet in New Zealand, to our Internet Cafe in Alofi Center.

By shutting off the DSL connection, Telecom Niue had effectively blocked Internet users in Alofi (primarily local businesses and the government) from using free WiFi to access the Internet.

Today — New Year’s Day — is the day we have finally licked that problem.

During the Christmas vacation we had completed a bypass to the cut DSL link — we put in a direct WiFi link, from the machine room at Kaimiti (the IUS-N technical center) to the Internet Cafe downtown. We connected that to the WiFi access point and repeater there, to serve the rest of the downtown area.

We’ve picked out January 5th to be the opening day for the Internet Cafe and for the free WiFi services in Alofi, and today we are doing some last minute tuning on the WiFi systems before the public comes back in.

But I’ve learned over the years that in the South Pacific — and in Niue in particular — things don’t always turn out as planned. For the past few days now I’ve been tracking, via the Internet, a group of tropical depressions way up north of Samoa some 600 miles away. I’ve seen depressions like these before of course — and they’re pretty frequent this time of year. After all, Niue is in the South Pacific’s summer cyclone belt. And because we’re south of the equator, January is summer here.

Others on Niue were using the Internet for the same thing. Soon, Niue’s long time local arm-chair meteorologist, Daryl Spatz, along with the Niue Meteorological Service, started predicting that this set of depressions was starting to look a lot like a cyclone. So the task of tracking became increasingly important.

Cyclone Heta

It’s January 2nd and on the storm tracking sites the group of depressions receives an official name, which by definition means they had merged into a single, destructive entity: Cyclone Heta. Once named, Cyclone Heta was immediately upgraded to a Category 3 storm ("Cyclone Storm Categories Defined", see below). By now, Heta had already hit Samoa at Savaii, doing extensive damage there.

But that destruction is just a baby step for the fast-growing storm, which is to eventually attain a size and speed that will make Heta a Super Cyclone when it inevitably hits Niue.

Now it’s the January 3rd, and as Niue’s sole Internet service provider, we at IUS-N have to make a decision on this cyclone’s final destination using our “best guess” to determine if we’re in its path. Because if we are, we have to start moving equipment to protect it. In many cases, it’s a flip of the coin that gives you the best guess. Most often, cyclones can come within 50 -100 miles of Niue and fizzle out before they reach us, or they just miss us, passing to the North or East or both. You don’t really know what path it will take until about 12 hours before it happens.

But this one is different

Heta — still two or three days away — has already been upgraded to a category 4 storm and now it’s hundreds of miles wide. No matter which direction it heads for now, it’s so big, it couldn’t possibly miss hitting Niue. At this point its simply a matter of how hard we’re going to be hit and for how long.

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**CYCLONE STORM CATEGORIES DEFINED**

**Cyclone Category System**

**CATEGORY 1**

Negligible house damage. Damage to some crops, trees and caravans. Craft may drag moorings. A Category 1 cyclone’s strongest winds are Gales with gusts to 125 km/h.

**CATEGORY 2**

Minor house damage. Significant damage to signs, trees and caravans. Heavy damage to some crops. Risk of power failure. Small craft may break moorings.

**CATEGORY 3**

Some roof and structural damage. Some caravans destroyed. Power failures likely. A Category 3 cyclone’s strongest winds are VERY DESTRUCTIVE winds with gusts of 170 - 225 km/h.

**CATEGORY 4**

Significant roofing loss and structural damage. Many caravans destroyed and blown away. Dangerous airborne debris. Widespread power failures. A Category 4 cyclone’s strongest winds are VERY DESTRUCTIVE winds with gusts of 225 - 280 km/h.

**CATEGORY 5**

Extremely dangerous with widespread destruction. A Category 5 cyclone’s strongest winds are VERY DESTRUCTIVE winds with gusts of more than 280 km/h.
Just then a few thousand tons of the Pacific Ocean crashes into the 30 meter high cliff... It feels like an earthquake.

work with us in the pouring down rain, amazingly, enough, with smiles on their faces even in the worst of conditions.

Securing the data
Next, secure the data backups. Remember the rule, “if it doesn’t exist in at least two places, it isn’t real data.” Time for off site backups, tape loads, mirror checks, and offshore critical storage transfer.

Everything has to be transferred before Niue vanishes from Cyberspace, and once that happens, we know we’re going to be off line for a while. Maybe for a very long while.

Last, the downtown office and Internet Cafe — not yet reopened, thanks to Heta...unplug it, store it, move it...change it...whatever there’s time for.

Anything that’s not nailed down goes into the watertight metal shipping container we have up at Kaimiti next to our technical center further inland.

That’s about all we can do. Whatever happens happens.

Now it’s Monday morning, January 5th — and I suddenly remember that I hadn’t killed the main power at the downtown office in Alofi after moving the equipment out. So down I go. I’m at the office and gathering some of my favorite technical books from our library. The big expensive ones first, the periodicals later. It takes a long time to build a good tech library. I take a peek at the offices next door in our building. The Niue Chamber of Commerce and the Business Advisory Services. There are plastic tarpaulins on all the desks and equipment. They’ve already been here preparing for the worst as best as they can but now there are no people in sight. The streets outside are empty. It’s eerily peaceful.

A car pulls up, it’s Maria Hunuki, Manager of the Business Advisory service. “Can you believe this?” She says.

Yes, I can believe it. I’ve been tracking this storm on the Internet for days now.

We have some nervous small talk and she finally asks me “is this the big one?”

“Yes, it’s the big one” I tell her. “We’re gonna get hammered, and I mean hammered.”

Just then a few thousand tons of the Pacific Ocean crashes into the 30 meter high cliff on the other side of the road. It feels like an Earthquake. It crashes into the cliff, reaches for the sky, and comes down in the middle of Dimitry Viliamu’s front yard also on the other side of the street.

“It’s time to get outta here,” I tell her. “We should both be home now.”

“Go find your kids and hang on.” She gets in her car and leaves, and I head for the IUS-N van, put my books into it, start the engine and drive away down Alofi South’s main road heading for home.

That was the last time I saw the Niue we’ve all known for all these years.

One more trip to the machine room at Kaimiti, and one more look at the online radar images.

This final look reveals that a few hours ago, Cyclone Heta had been officially upgraded to a Category 5 — a “Super Cyclone,” with data off the weather scales. It’s heading directly for Niue, on schedule, and it’s hundreds of miles wide. The Weather station I installed here is measuring 50 mph winds by now.

We’ve done all we have time for. It’s time to go home and ride it out. If I wait another 10 minutes here at the machine room, I probably won’t be able to get home. And I can’t stay here. This building will probably not be here in a couple hours. So I better go.

Before I leave, I send a last email message to the mailing list of the Pacific Islands Chapter of the Internet Society (PICISOC):

From: Richard St. Clair <stclair@niue.nu>
Organization: Internet Niue
To: “Pacific Internet Users Group Mailing List” <pignet@lyris.spc.int>
Subject: Cyclone Heta
Date: Mon, 5 Jan 2004 10:06:51 -1100

Hello Group,
We’re about to get hammered by Cyclone Heta. It’s heading straight for us today. So Niue may be offline for a while.

Regards,
Richard St Clair,
Co-Founder Technical Manager,
Internet Users Society Niue
PICISOC Chairman, APTLD Board Member

Cyclone Heta hits Niue full force
By early evening of January 5, 2004, Cyclone Heta hits Niue full force. Winds reach more than 300kmh and are sustained for several hours. In addition to the cyclone factors, the tide is high, and the moon is near full. The ocean rises over Niue’s 30 meter high coral cliffs and comes ashore, taking almost all of Alofi South, and other major portions of the west side of Niue, and destroying much of the rain forest. Since the storm is hundreds of miles wide, Niue suffers this sustained torture for untold hours. By Midnight the winds have decreased to sub-cyclone speeds. By 4 am, it’s time to venture out and see what’s left. By sunrise it’s hard to believe what is before our very eyes.
So, it’s 4 a.m. on January 6th, still dark, and the little Suzuki IUS-N van that we affectionately refer to as “the Barbie Doll Van” is still sitting in the yard, undamaged.

I’m surprised. It’s so small and light that I really don’t expect it to be there. All the trees are down — the dense tropical rainforest in my backyard has vanished. But the little van starts right up, and we head down the driveway. We get almost to the main road and are stopped by a large coconut tree straight across our driveway.

It’s still pitch black outside, but across the street at the house next door we see some activity that looks like people moving about with flashlights. It is. They survived.

At this point we have no idea what’s left or who’s left on the island. We borrow an ax, and as fate would have it some strong looking young tourists emerge from the darkness just in time. They take the ax and chop the tree out of driveway.

They’re on their way to the radio station where they’ve already been informed there will be a meeting to form a disaster organizing plan. Looks like they picked the wrong week to visit “Niue, the island of tranquility”.

Back in the van and we head for the machine room at Kaimiti. Hoping it’s still there. I’m not too positive about it; it’s hard to be positive about anything after seeing, feeling and hearing Cyclone Heta crash over Niue all night long. Certainly our small machine room would be gone after such a pounding.

This morning, it takes some time to get to the machine room. What’s normally a five minute drive now takes almost a half hour. There are trees in the middle of the road. There are high tension power lines down and we don’t know if they are live or not. Chunks of houses are lying in the road, and just about every kind of debris along with it.

Finally Kaimiti. It’s still dark, but as we round the corner, in the distance we can see the outside red alarm warning light flashing at it’s normal 8 second interval. The machine room is there, and the alarm is still armed and running. At least that means the building is still there.

Park the van, and shut off the engine…we can hear the diesel backup generator running. Shine the flashlight on the front door. Unlock the door and slowly pull it open. The lights are on, the servers are running, the routers are live, and the dial ups are at the ready. This brings an amazing once in a lifetime feeling of relief that just can’t be easily explained; rather, you just have to experience it yourself someday.

A quick look at the systems and as expected, the first noticeable effect is that the links to the outside world are down. By this time it’s just getting light, and a look along the back of the Telecom Niue building reveals the fact that their main satellite dish is simply gone.

Getting back online

Later on that day we would drive around and see that Telecom’s 8-meter diameter satellite dish is now roughly a quarter mile away from its mount, looking very much like a giant twisted, crumpled beer can. Ah, that explains being offline…our frame relay link location and wash it down with fresh water. Computers and all the other equipment. Washed, cleaned and moved into more permanent storage.

Leaving the downtown office for the moment, we drive to Alofi South (the south side of Niue’s capital city). We travel only a short way when we suddenly realize, it’s basically gone. The road is there, we see where we think we should be, but there is nothing recognizable. Eventually we see some parts of some buildings that survived, and realize we are in front of Alofi Rentals, Niue’s car rental service.

Across the street we see the place where Ernie Welsh’s house used to be. It’s not only gone, but the only hint there was ever a house there is the cement foundation that is
not only cleaned off completely, but actually polished shiny from the sandy ocean water rushing over it through the night. The further south we go, the worse it gets.

The Niue we have known all these years is truly gone. It is a different island and a different country. Hundreds are homeless, the hospital is a total loss, the flagship Niue Hotel is in ruins, the dive shop is gone, the museum and cultural center are gone, the land court is destroyed.

We can only imagine what the rest of the island looks like since we’re unable to drive there. Most of the roads are closed, and we can’t spare the fuel anyway, since we have heard that Niue’s only petrol station has been damaged. We also know the main fuel tanks by the ocean have been damaged and are leaking fuel into the ocean.

Niue, an island in ruins
Eventually the realization of what has actually happened starts to sink in. People are milling around looking through the rubble for clothing and personal effects. Over the course of the next few hours we will learn that Kathy Alec, a young 26 year old Nurse has given her life as a human shield in an attempt to protect her two year old son when the tsunami crushed her house.

A few weeks later after an incredible fight for his life, we also learn that the toddler she died trying to save simply can’t recover and succumbs to his injuries. Cyclone Heta and the Sea have claimed two victims that will be missed forever by the people of Niue, family, friends.

The Niuean rainforest has been completely salted and in a few days there will be nothing green on Niue whatsoever. The coral reef on the west side, once teeming with life and a world-renowned destination for recreational divers, has been swept lifeless. It will takes years, perhaps decades to recover.

We all spend the next few days helping where we can, finding personal effects and cleaning sea water from our own residence. We still have a roof, and other than a monumental mess in the house, we are luckier than most. We have a dry place to sleep.

Restoring Niue
By the end of the week, the national sadness has peaked, recovery begins, and Niue is in reconstruction mode. Military airlift supplies are arriving from New Zealand and Australia — equipment, food, clothing, fresh water and replacement housing is being donated and installed. Power is coming back on line in some places. Water is restored to some.

After the devastation our WiFi Internet services become even more important than ever, as a core...communications tool for Niue.

A little at a time, services are coming back and the long task of building a new Niue begins.

Once we’ve cleaned our own houses, we begin evaluating the Internet situation and status of the WiFi equipment. Hingeable masts go back up, equipment is unpacked from the container and tested.

After ten days, a small temporary satellite dish that has been donated to Telecom Niue and flown in is installed and comes on line. Telecom Niue restores the frame relay connection to New Zealand. We power up our networks and the Internet services come back to life.

The masts are untied, the same crane that helped us take some of them down, helps us put them back up to full length...flip the switches...WiFi is back in some areas and others will have to wait for replacement parts to arrive on the slow incoming air freight from overseas. A little at a time, Niue’s WiFi nation is built again.

And the rebuilding goes on, probably for a very very long time.

Now more than ever, the critical importance of dependable global Internet services to an isolated island nation like Niue becomes clear. Families can email friends, relatives, business associates overseas to let them know all’s well, or to request assistance.

The process of letting them know the real situation on Niue begins so the rebuilding can begin. There have always been few phone lines in Niue, and the even fewer that still work after the devastation are noisy, but you can connect in some places.

After the devastation our WiFi Internet services have become even more important than ever, as a core national and international communications tool for Niue.

Slowly, the Internet traffic in and out of Niue stabilizes to some degree of normal. Computers come back on line. New machines arrive, and life goes on.

The Niue we knew is gone, and a neo-Niue emerges. Still a WiFi Nation...but now it its second generation. ■
Richard St. Clair is Chairman of the Pacific Islands Chapter of the Internet Society (PICISCO), board member of APNIC, and technical manager for the Internet User’s Society - Niue, the charitable foundation which administers .nu, the ISO-3166 country code Top Level Domain (ccTLD) associated with the island of Niue (pronounced New-way). When he arrived on the island in 1994, the telephone in his house had a crank on the side and his phone number was “two longs and a short” turn of the crank. Now, with funds provided by the global marketing of .nu, he has created a Niuean technological infrastructure and provides free dial-up, DSL and WiFi Internet access for the Island’s residents.

Niue, where politics is business
continued from the back cover

34 people registered as shareholders; they paid between $1000 and $5000 each for a share in the business.

The plan was to refurbish the hotel and allow it to become the four star resort it claimed to be.

Mark Cross, a shareholder, said the deal seemed solid because there was an expectation air services to the island would be restored. The prediction was made good when Polynesian Airlines signed up to service the country, bringing in tourists needed for the hotel.

Cross said the government began to assist with renovation. “Talk to Toke about that,” he says. “There was a bit of a conflict of interest because he was Minister of Finance.”

Before reaching the centre of Alofi, you will pass the Niue office for Peleni’s Travel. With Peleni’s Travel in Onehunga, Auckland, and the Niue office, Talagi has flights between NZ and the island sewn up.

The Niue office is the only travel agent on the island of Niue (pronounced New-way). When he arrived on the island in 1994, the telephone in his house had a crank on the side and his phone number was “two longs and a short” turn of the crank. Now, with funds provided by the global marketing of .nu, he has created a Niuean technological infrastructure and provides free dial-up, DSL and WiFi Internet access for the Island’s residents.

AFTERWORD: REBUILDING NIUE’S INTERNET

Now it’s February 15th, and more than a month has passed since Heta.

I look around and I see that Niue is returning to normal — slowly but surely. Truckload after truckload of debris is hauled away to clean up the areas with the most damage. New houses are under construction by the Tahitian assistance groups, and plans for more from New Zealand are in the making.

The Internet services are back to normal and traffic levels are high with an increased need for overseas Internet communications. The WiFi systems are running better than ever, and the increased number of nodes we’ve installed will assist to unload the now very much overloaded telephone trunks.

Users have replaced computers with new units from overseas, and in a short time, Niue’s cyberworld returns to something that resembled pre-cyclone characteristics.

The New Internet Cafe is online and running well at the commercial center, and from a new perspective — a perspective of rebirth, kind of — Niue looks to the future with great expectations.

– Richard St. Clair
Niue, an island where politics is business

New Zealand taxpayers face paying “tens of millions” of dollars rebuilding Niue. DAVID FISHER discovers disquiet on Niue over the role of Toke Talagi, Minister of Finance, who will help decide how our money is spent.

A life in tatters, like Niue itself, the woman trudged along the dry and dusty driveway to the home of acting premier Toke Talagi.

One week after Cyclone Heta struck, she walked past the five shipping containers on his front lawn, all stuffed with aid packages sent from New Zealand and Australia, and up on to his deck.

There sits Talagi, moustache trimmed neat and silver hair swept back. The performance that follows, where he agrees to lend $100 to the family to buy food, explains why some call Niue “Talagi Island”.

The money would have to be repaid, he explained. He signed, the woman’s husband signed and Talagi thumped the stamp of one of his many offices, Minister of Finance, on the chic. With her husband, she walked back to the road, past the shipping containers filled with food.

This is the man who will have great sway over how taxpayers’ money from New Zealand will be spent rebuilding Niue.

Why, she asked later. Why won’t he give me the food New Zealand sent? The family home is so badly damaged they have turned to friends for help. The only bank on the island, Westpac, won’t issue money to those without proof of their balances. Its computers aren’t working and it doesn’t want to give customers money they don’t have.

“I am in need,” she says. Yet Talagi will say that there is food in shops on the island. Life should go on for those able to access cash when the bank starts working again.

Acting premier following the cyclone, Talagi is also the minister in charge of finance, education, language development, environment, meteorological services, post, telecommunications, the International Business Company and Niue Development Bank.

But his influence extends further. Talagi operates the only travel agency on the island - after opposing plans to introduce a government-run air service. The New Zealand end of his operation skirts the International Airline Travel Association rules so closely the Travel Agents Association of New Zealand is likely to ask questions.

Talagi is also behind a money transfer business which angered Westpac.

And when Talagi bought the Hotel Niue with a group of shareholders, there were claims that government money was being spent on renovations — effectively repairs on a private business in which he and family members have a shareholding.

Locals say he gives loans and offers finance to allow Niuean civil servants to buy cars. A government source says the repayments are arranged by his wife as automatic deductions from wages.

Fifitaloa Talagi, his wife and director of administrative services, is just one of many family members in senior state positions. She is in charge of the extensive machinery of Niue’s government which, with the help of NZ aid, employs 75% of the island’s workers.

His daughter, Peleni Talagi, is crown counsel. Other relatives hold state jobs — Deve Talagi is head of public works, sister-in-law Grace Sisilia Talagi is director of administrative services and Tikili Talagi is head of the high school.

Sons, daughters, cousins - they are spread through the Niuean public service in senior positions, sometimes doubling in jobs with Talagi’s private businesses, Peleni’s Travel and Tastok Enterprises.

Talagi was also minister of tourism until 18 months ago. He dropped the portfolio at the urging of opposition MP Terry Coe, who expressed concern about a possible conflict of interest because of Talagi’s interest in Peleni’s Travel.

Examples of the complicated network can be seen as soon as one steps off the plane in Niue. When Polynesian Airlines signed the deal to fly to Niue, company spokesman John Granger says it also agreed that Peleni’s Travel would supply ground handling services.

According to Granger, it is Peleni’s Travel staff that will escort passengers from the plane, check their bags and prepare the aircraft for take off. The people doing the work wear badges stating they are employees of the Niue government’s civil aviation branch.

There is no sign in Niue’s budget of any agreement or money received from Peleni’s for use of the staff. On one recent flight, the Star-Times watched Peleni Talagi directing ground staff to tasks about the airport.

“We just do what we’re told,” said one. It was unclear whether she was operating for Peleni’s Travel, or as Niue’s crown counsel.

“It’s none of our business who they employ,” says Granger.

Leaving the airport, among the rental cars on offer, it is possible to encounter cars available for hire through Peleni’s Travel. The rates are much lower than others on the island — at one stage $15 a day. It is sustainable, claims one business owner, because the same cars are later sold to government servants through finance from Toke Talagi.

Other financial services are also available from Talagi, say locals. The concern from some is that there is a constitutional danger in having a small pool of voters in debt to a politician.

“People have to vote for him,” says a government contact. “With the population getting smaller, it’s easy (to know who is voting for which politician).”

Drive the car to Alofi, the capital of Niue, passing Talagi’s home and the shipping containers filled with aid. Past the NZ High Commissioner’s home and office, turn right and along the demolished waterfront.

Behind you are the remains of Hotel Niue, an attempt to revitalise one of Niue’s few hotels that was cut short by the enormous waves that crested the cliff and reduced it to rubble.

Talagi had formed a group of investors into a New Zealand registered company, the Niue Investment Company Ltd. There are continued inside on page 7