

Well, that kept me busy! 138:23 hours of attention to detail and sleep deprivation. I'm SOLing just over 1 year now and until switching from a well-known game that sees the World in terms of $1^{\circ} \times 1^{\circ}$ squares and constant winds punctuated by massive 12-hourly shifts I had barely heard of routers. IRL I'd been on an X52 that had SeaMax for a plotter, featuring lots of utilities driven by onscreen icons for wind and current gribbs etc that didn't work, and I had found zezo to be strange and confusing in that other virtual world.

SOL, however, has proffered me a true appreciation of routing, plus a lot more wind strategy stuff that 40 years of mostly round-the-cans I'd never figured. Allow me to share some of that with you all by way of this too-obviously-chuffed race report!

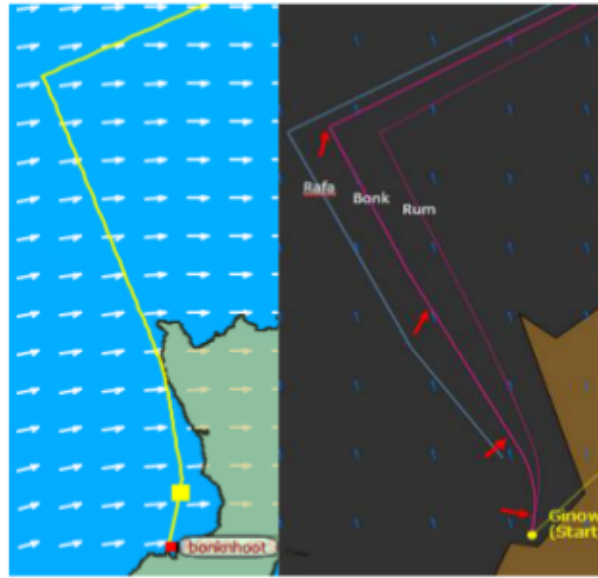
There are a number of routers out there. Some of them like SeaMax that I mentioned and Expedition are packages (I guess they're called apps now!) that you purchase and some of them like QtVlm and BlueWater are free-to-air. I think Qt is French and BW American, so I guess most European SOLers that route use Qt, and most routing North Americans use BW, which I'm told can't handle crossing the International Date Line (a problem if you are trying to get from Tokyo to San Francisco!). You can and people do, of course, use both. I guess it's a bit like going to a specialist for a second opinion when the first one has given you a worryingly stark diagnosis.

So, what does Qt do and how does it help you (one, me) in an in-betweeny race (i.e. one of more than 36 hours sailing over several 100 miles, but not more than a week over 1000s of miles) like this (IMO, forgive me I'm biased) very excellent Okinawa to Tokai Race?

Like that online sailing game I alluded to earlier, Qt also has an aberrant approximate view of reality or should I say SOL's reality (SOLarity?). It's not as daft a view, but it does mean it only provides an approximate answer to that simplest of questions: "Where should I go to?" "How did I get here?" it leaves to David Byrne to pose and answer. Qt's approximation is to discretise time into 5 minute intervals (or longer as you may well wish) and course changes into degrees of 3. It then performs a trial-and-error process to find the quickest course from A to B given your yacht's performance (polar file) and the prevailing weather forecast (grib file). You can find those files for all our races on <http://sol.brainaid.de/sailonline/toolbox/> as most of you know.

To the race then. Wednesday 01:00 UTC is 03:00 CET+1. Given that the wind was going to be light and rotate from due West to South of South West over the first two hours or so, with slightly more pressure the further offshore you went, there really was no other choice than to be awake and steer by hand.

As always I ran Qt on half-hourly Δt 's to get an approximate idea of the likely overall track, then set an intermediate waypoint just East off Tokunoshima (the third rock North East of Okinawa Island) and ran it again on $\Delta t = 5$ min. No surprises really. The idea was going to be to not sail directly for the Cape (Zanpa!) but to sail free-and-fast into the shore and then gradually turn up onto a more North Westerly heading till you hit a hot c 130 $^{\circ}$ or so TWA, then hold a constant COG allowing the turning wind to slowly free you onto c 135 $^{\circ}$ TWA and finally gybe well North of Zanpa, onto a course that would take you inside Le Island (which is not in France) and just clear the



northern tip of Okinawa (Cape Hedo). Simple.

Above you see what Qt proposed and what three of us, who as it came to T-gybe were tussling for the lead, actually did. Compared to Qt, none of us put in as much easting early on, none of us closed as much on Cape Zanpa, and none of us went as close to Le Island (which you can't see) once we gybed onto starboard. But each of us deviated subtly differently.

The reason I dwell on this, is that like IRL, an early lead is worth a lot. There is no bad air on SOL, so why is this? Well, once you are in the lead, the only way an opponent can pass you is by trying something else. This will mean he or she will more than likely try something that is more of a gamble. And if you, ahead of 'im or 'er, don't think it is, you can and should of course cover.

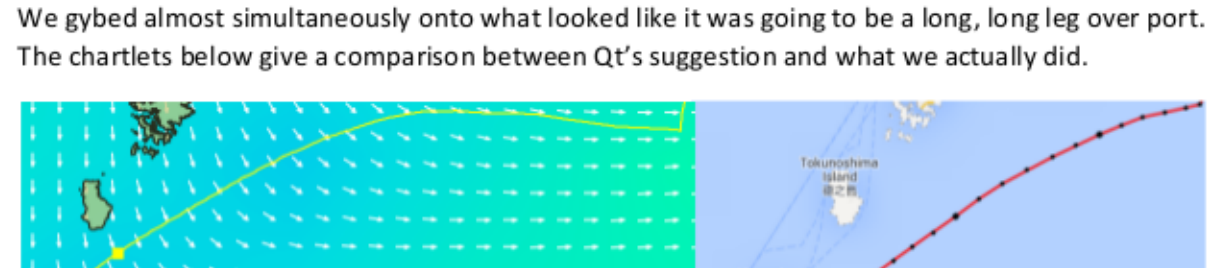
OK, so what precise heading to choose out of the blocks was the first conundrum. The more east you put in, the more you would immediately register high up on the leaderboard (the race had only one waypoint, the Finish, 750nm North East of us!). And you knew the wind would turn and free you. Tempting. But the Santa Cruz 52 actually would start to slow down if you sailed deeper than 82.3 $^{\circ}$ TWA and there was also a little more wind in the West out to sea. So I put in a constant 82.3 $^{\circ}$ TWA and let the wind turn bonknhoot north a little bit, then switched to a constant CC, then back to a deeper constant TWA, then back again to constant CC, etc, etc, freeing off gradually, whilst keeping a close eye on VMC to an imaginary point North of Zanpa.

Imagine my delight when after about half an hour of this, I had bonk sailing across the bows of most of the fleet that set off on a more direct, slower, tighter TWA, now with their sheets well eased. However, out to sea in more wind, I could see rafa sailing a flatter, equally smooth curve, and closer in to shore rumskib, also curving smoothly, was hanging in very well. After another three quarters of an hour or so, I figured a constant CC of 331 $^{\circ}$ was going to see bonk on a more precise 137 $^{\circ}$ TWA by T-gybe, set this and went to get a few hours sleep before the first WX would arrive.

I'm not sure but I'm prepared to blame the new WX, because when I awoke, it was clear that 331 $^{\circ}$ was too hot, so I immediately bore off 4 $^{\circ}$ or so, and, thus, as we switched from our respective CCs to TWA 137 $^{\circ}$ or slightly deeper, it was advantage rumskib, hard luck rafa. All three of us gybed as soon or shortly after we switched to TWA's, with rumskib therefore on the inside and rafa on the outside, which gave the lead to rumskib, c 0.3nm ahead of bonknhoot with blueskwal right alongside.

Things now settled down into a bit of a drag race, first to Cape Hedo, with rumskib making it on one gybe, despite the wind tending to veer very slowly from almost due South back into the West over the second half of the leg. On the outside of the curve but with more breeze, bonk lost little enough and all three of us hardened up a little at the cape onto a constant CC to get us to another P-gybe.

We gybed almost simultaneously onto what looked like it was going to be a long, long leg over port. The chartlets below give a comparison between Qt's suggestion and what we actually did.

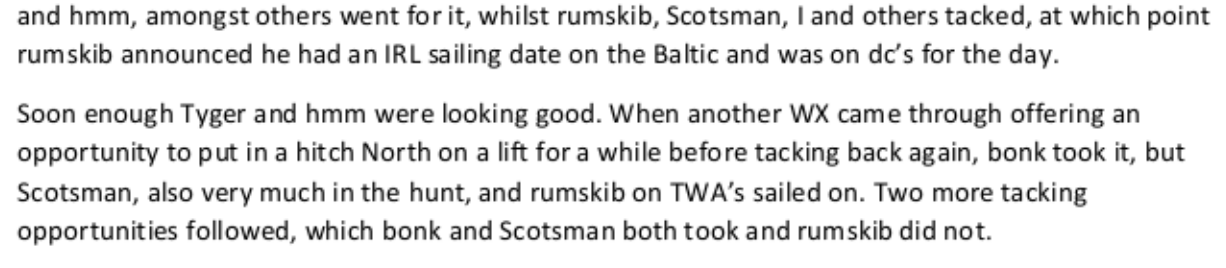


Over the course of what Qt said was going to be 40 hours or so, the wind was going to anti-clock back from South West over West and beyond North into North East, and so we all sailed a curve, but flatter (i.e. shorter) than Qt had indicated, and we all tacked much (like 18 hours) earlier. bonk lost a bit on rumskib and then recovered it, and rafa regained almost everything he had given away coming out of Ginowan; how did he do that?!

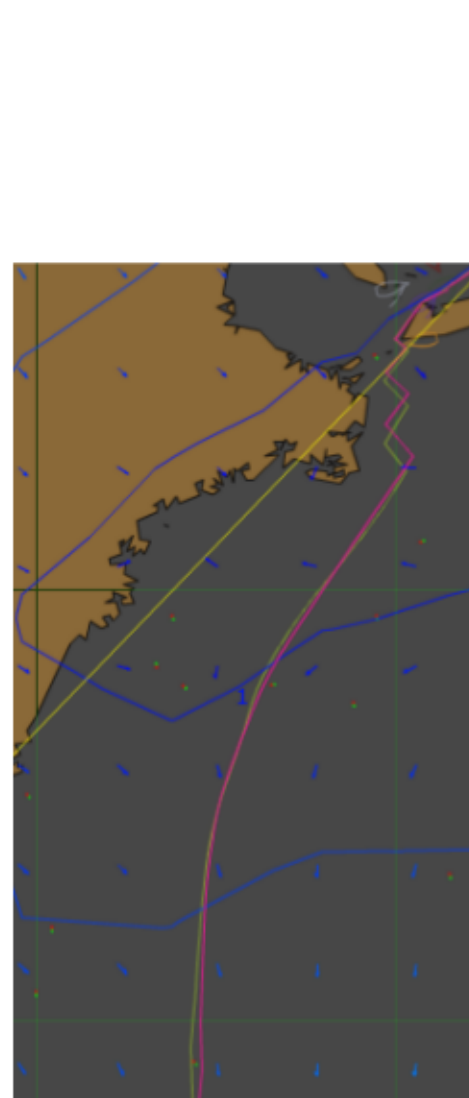
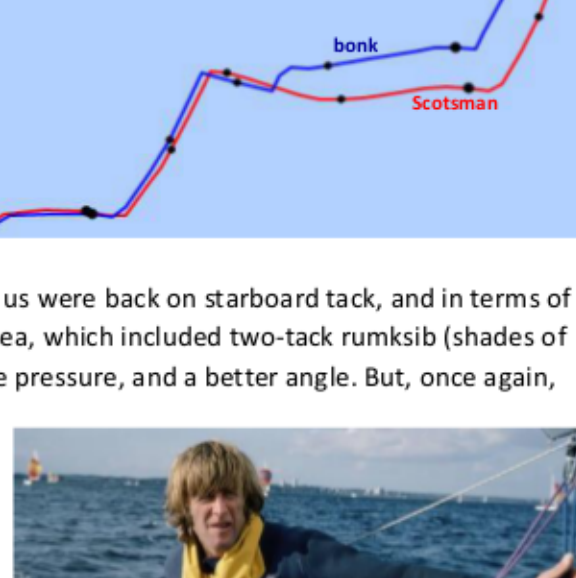
Ever so briefly we were now close-hauled on starboard, but with the continuing anti-clocking wind freeing us off, the right choice was to hold course with sheets eased sailing well below the layline to Tokai into what was forecast to eventually become a big header to tack on. None of the leading group deviated from this plan. And again, when the header hit on Friday night, everybody flipped back onto port heading approximately due East out to sea. Six hours later the wind started to head once more and at variously between 01:00 UTC and 02:00 UTC (!) we all tacked back onto starboard back towards Japan.

The key to the race now unfolded. As Saturday morning broke (in the western world), the wind started to clock back into the North once again, and a choice presented itself: carry on into the header to hold more wind, or tack onto another significant lift but towards lighter air. Qt said tack, but, if you are a Qt-user, you will be familiar with how it plots a path in one direction, and then suddenly changes its mind. The further away in time this change of heart is, the less certain it is that what it suggests is actually going to work. Also what it never tells you is what the return is for the risk you take by following a slow-route first suggestion, although you can try to work that out by setting intermediate waypoints. Anyway, the point is that going into shore also had merit and Tyger and hmm, amongst others went for it, whilst rumskib, Scotsman, I and others tacked, at which point rumskib announced he had an IRL sailing date on the Baltic and was on dc's for the day.

Soon enough Tyger and hmm were looking good. When another WX came through offering an opportunity to put in a hitch North on a lift for a while before tacking back again, bonk took it, but Scotsman, also very much in the hunt, and rumskib on TWA's sailed on. Two more tacking opportunities followed, which bonk and Scotsman both took and rumskib did not.



By Sunday afternoon, as the 16:30 WX came in, all of us were back on starboard tack, and in terms of DTF very closely bunched. The boats furthest out to sea, which included two-tack rumksib (shades of Cdr R Pattison at the Kiel Games), however, had more pressure, and a better angle. But, once again, a major windshift was about to come through, which was going to free us all – the aforementioned plus Franci, neuroman, karriv and number1.



As we approached the shore and another T-gybe, the guys on the outside under shore of course were going to become the guys on the inside, handing the advantage to them. Confusing, eh? Never mind, in short, another drag race through a curve with bonk now ahead of rumskib by a small Δl of less than 1nm, and by virtue of always being that bit closer to shore, continuously in that small fraction less pressure, ensued.

With the guys under shore, suffering too much from lack of wind, as we get to the entrance to Tokai, bonk, rummy and neuroman lead the fleet and start putting in a few gybes to avail of shifts and certainly in bonk's case to cover rumskib who is closing inexorably.

Rounding Cape Irigo, the race remains still very on, as a further major wind reversal is set to pass through before we get to the Finish, replacing a very fitful breeze from the sea by an equally fitful breeze from the land. For us racers, the implications are a curve into the East, a gybe onto North and then a curve back towards North East, all the time making sure you end up that bit north of your opponents so that you have them covered in terms of pressure and angle. Went well I must say.

Thank you all for another great race, and thank you SOL for an amazing game.

Yes, amazing! The detail and precision of the wind modelling. How is it done?