Replacing Government IT Systems. We Started With the FEC

Lots of focus on D.O.G.E., that thing Elon Musk created outing government waste.

This week, Musk learned about the thousands of obsolete, 1970s and 1980s systems Uncle Sam currently runs on technical life support.

The major systems running the federal government are older, by 15 years, than 8 track tapes!

Many of you have never seen an 8 track tape - that's how old they are.

The people who built them are either dead or in nursing homes. These systems cannot meet the challenges of our current age - but they are so expensive they are almost impossible to replace.

Replacement alone, with current technology, a variant of the technology that built them, would take another 25 years - at which time they would be obsolete again.

It's like building a highway across the entire United States.

By the time you finish the Santa Monica end the New York end is crumbling. Highways, however, are good for decades - or as the Romans proved, centuries.

Application systems, however are not.

So here's the problem: Take any department and get the dough to replace its aging systems. It takes a year or two in Congress to get that done - and the U.S. is technically bankrupt already - so you have to print money.

Printing money didn't work out so well for Joe Biden, it pretty much guarantees scary price increases in eggs and milk - which are the prices that elect senators and presidents.

Once you get the dough, one has to fix those applications. The bidding process takes a year, maybe more then the application building begins.

A moderately complex application takes a year or two of planning, code reviews, stakeholder reviews then some actual coding.

These steps add 2-3 years to the most simple application rewrite.

We've just consumed almost a decade and not one application has been modified.

There is a better way.

Why not just build the application, show it to the government, show it to members of Congress - and demonstrate to them that legacy replacement applications can be built, delivered, into full production in 90 days!

No code reviews. No endless meetings with “stakeholders.” No “not invented here” pushback from cubicle dwellers wearing logo wear hoodies and Microsoft course diplomas pinned on a cubicle wall.

Well, that’s a pretty good idea, so we did it, here at Fractal, in Austin, Texas.

Using Fractal quantum-speed technology, any government application can be rebuilt in about 90 days or less, placed into a parallel process with the current system, demonstrated, tested and then we send the government the bill.

The bill would be a fraction of the current maintenance-spend for that application.

Not a fraction of the application cost - a fraction of the maintenance of that application.

So an application you would expect to spend $150 million rebuilding, taking a decade, we could have in production, in 90 days, for maybe $5 million, maybe $10 million.

Remember - 90 days.

The application would run 1,000 to a million times faster, not need the energy-consuming data centers now required, and be upgradable daily.

Now is when the cubicle dwellers challenge us. This is where we get the nasty email from some goofball tech wizard saying this is impossible, it will never happen, there is no possible way to do it.

We expected that.

So, we just did it!

The Federal Election Commission, FEC, has a budget around $85 million a year to track every donation to every federal candidate since 1975. They have a publicly accessible database of 680,000,000 records. That's 680 million if you have to count zeroes.

For the federal government, that's a good sized database.

The FEC's stated objective is to make these contributions accessible to the public. Transparency. Visibility.

Just try logging onto the FEC system and try doing something more than "how much dough did Bill Sutter get and from whom?" Maybe try comparing the FEC data to state contribution data - to get ALL the visibility to Sutton's donations, not only the fed stuff.

Try comparing the FEC data with the NGOs to see if illegal NGO data is coming from FEC-traceable funding.

Good luck. You cannot begin to get this done before throwing up your hands in failure. The FEC database is horrendously complex to get anything more than a simple query result.

The FEC database is public. So, we loaded it, in Fractal.

We published it as a **Demonstration Project** at our new website: **TheFractalGovernment.com**

To do that with conventional technology would require a massive data center and/or cloud. Make that millions of dollars and a year or two to build. We know that because that is what the FEC spends.

We loaded the entire FEC database, all 680 million records in a day, and we run it on a computer you can hold in your lap - a computer called an Intel NUC - as in the photo below.

We can run it on any UNIX computer, but this one was handy and cost less than $6,000. In case you count zeros, that's 6 grand.

We run this FEC System at 200 million transactions per second, on a small computer, like in the photo.

We could run it on several small computers, spread around the country if we chose to show redundancy. You get the picture.

In a true production environment, we would run it on a dozen such computers, to quadruple the speed and have zero latency to the data - but that's more than the FEC can do today thus we put that into the future.

So now, we have **our third demonstration project** - where we took a massive government system, the FEC historical contribution database, which consumes millions

of dollars a year in IT cost, and Fractal replaced it with a BETTER system, costing maybe a couple of hundred grand.

We would charge the government more than that, but you see the disruption.

The FEC system requires scores of IT people, costing millions of dollars. Our FEC system requires about 3 hours a month of people-level involvement - the rest of the work done via system design and A.I.

The FEC system needs both a data center and a cloud **(which is just someone else's data center)** costing millions of dollars a year. With Fractal, those costs drop a bunch of zeroes.

The FEC in its recent message to Congress says it struggles with transaction levels of around 500,000 a month, or maybe a week, we forgot.

The Fractal FEC system runs at 200 million a second - so either doesn't much matter.

We built this demonstration project to show the doubters that we can do what we say we can do - and we can prove it using THEIR data - not ours.

How do we do this?

Gartner, the gold standard for tech assessment and futurist stuff said the current tech stack - which is relational database and the world of software attached to it - is obsolete in 2025.

In a couple of weeks it's 2025.

We aren't the only guys doing this sort of stuff. All sorts of companies are building and delivering new tech stacks, quantum compute, advanced A.I. and other disruptive technologies.

Our differentiator is we can do this now, on current hardware, using current technologies - put together differently. That means the government does not need to retrain its people, does not need new hardware, and there is no "secret sauce."

This newsletter is all about showing you the behind-the-scenes look at how to take a disruptive technology to market.

We think building demonstration systems, showing we can run circles around the current government technology is a very unobtrusive way to prove we can do it.

We hope other companies do the same thing.