



REPUBLIC OF ESTONIA
INFORMATION SYSTEM AUTHORITY

How to test an ecosystem?

API First Government & testing

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The gist of it

- Why do we talk about the ecosystem?
- So, how **do** you guys test that ecosystem of yours?
- Key challenges
- Summary

But first, some context

Our agency is responsible for the stuff holding Estonian digital government together

The. Entire. Thing. Yes, it is rather important. No, they won't always listen

The following is very much work in progress

Very few folks face the challenges we do.
We make this up as we go and try to fail fast and safe

**Why do we talk about the
ecosystem?**

Because control over the ecosystem is what you are after

Otherwise you'll be pushed down the food chain by evolutionary pressure.
Everybody benefits from a healthy ecosystem

Testing one side of the API tells you little about the quality of the interaction

Your code might be perfect,
your documentation might be perfect,
but the partner devs simply does not like .NET

You do not control most moving parts anyway

Environment can't be specified, the OS-zoo,
the language-zoo and the library jungle

Vendor lock-in is a bad thing even if you are the vendor

This is why open standards were invented.
Flexible systems are more resilient

And so we focus on making the ecosystem work

Our goal is to have bunch of happy customers happily doing their digital government things

How do we do it?

Our approach is rooted in System Safety

Which in turn is rooted in the US ICBM program of the 50s and 60s

We seek to test so we won't break the ecosystem

A perfectly dysfunctional set of
perfectly functioning software is not very useful

Embrace criticism and failure

Or try to. You test to fail, not to succeed.
Engage stakeholders early, utilise beta and alpha testing

Focus more on system boundaries and APIs

These establish a clear contract to test against from both sides

SDKs and standard implementations in addition to docs

Docs are good, code is better. If your implementation breaks, others will, too

Key challenges

The following we need to change

It is a mind-shift, not a technical change

You don't know what's good for the customer

Therefore you can't test from their perspective. Stop talking and start listening

**You are as bad a monopoly as
anybody else**

Yes you are!

Why test anything, if people are forced to use your crap anyway?

Standards are good, software is better

Writing something down has very little effect on how the world functions.

Provide tools, validators, automated test scenario.

Despite them not actually **doing** anything

Summary

You need to figure out how to test your ecosystem in a meaningful way

Testing is all about measuring and increasing quality of something.
What does quality mean in your ecosystem?

Work with systems, not software

This includes people, organisations, hardware etc.
Software is but a part of the bigger picture

Be ready to let go

Admitting you no longer control certain things is
key to reaping the benefits of ecosystems



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Thank you!

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