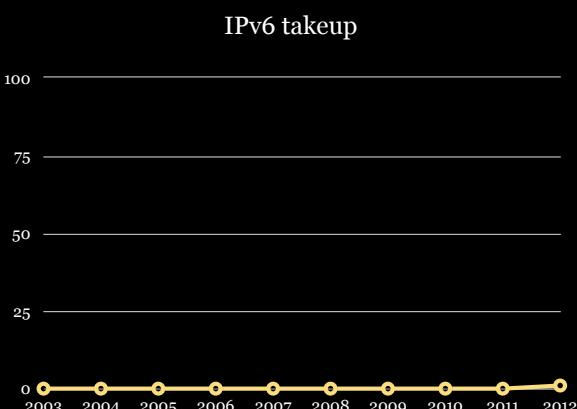


Post-burnout presenting



I spent a decade giving IPv6 talks and this was the result.

That's the sort of thing that can get you down.

Anecdote: GÉANT meeting “yeah you’re right”

When that happens, it's time to STEP BACK and do something else.
INSTEAD of being frustrated that people just weren't seeing obvious truth
I started looking at what it is that people find CONVINCING or not. What really makes a difference?
THE ANSWER is far bigger than just presenting.

I find a lot of presenting advice to be very frustrating.

“Say what you’re going to say,
then say it,
then say what you’ve said.”

Some of it is received wisdom, that’s long lost its useful context.

“Three bullet points per slide.”

Some of it is very simplistic.

“The thirteen important things to remember are...”

And then a lot of it reads like a sort of ACADEMIC ANALYSIS in nice words. OFTEN A DECENT BREAKDOWN of what makes a good talk, but NOTHING I’m going to be successfully able to apply to my own. It DOESN’T FIT INSIDE MY HEAD.

So what does?

TALKS HERE, or at RIPE, are different to the talks I see at a developer or academic conference.

I don't think anyone tells us how.

I think we just LEARN BY EXAMPLE.

I GOT CURIOUS about what causes people to gravitate to a particular style like that.

WONDER what I do that has no good reason.

I'M GOING TO take one of my own talks and sort of explode it on the stage.

COULDN'T prepare very far in advance, for reasons that will become clear.

In it, you'll see THREE things.

1: You only ever get to talk about one thing.

HAVE TO BE ABLE to say what it is.

INTERESTING to the audience

LOTS OF WAYS to make something interesting

- "I need you to learn this" is not one.
- Doesn't have to be good news (v6 disruption spooked people but gave something to think about)

ONCE YOU HAVE THIS, can break it down.

EVERYTHING YOU SAY must be in support of this.

Writing a THESIS - same advice. "Your thesis is one sentence. Then go back and remove everything that doesn't support that sentence."

2: Tell a story.

HOW YOU solve making it interesting to audience.

"JUST A DEEP TECHNICAL SUBJECT

can't make it flashy like a new iphone"

Once you understand WHAT THEY NEED, you know how to make it interesting.

e.g.: Apple switch to Intel. Straight in with reasons and benefits, then later sessions for detail.

Avoid "this fact and this fact and i did a thing"

- "i have a problem - here's the solution"
- describe a journey
- "10 things about blah" can work but I like to bring people on a journey

2: Tell a story.
(Story > slides)

STILL A SKILL. How do you get good at it?

- start by just writing things down. No structure. SPENT SIX MONTHS just jotting down notes for the talk that became the v6 disruption talk.

Do slides LAST.

If you START WITH POWERPOINT template FORCED MARCH where you're bludgeoned with three new points every time you click the clicker.

IF YOU WAIT until you know what you're going to say, it's very quick to make slides.

CLEAR which ones are important.

6 months making notes; 90 MINUTES on slides
if the projector broke, i could have given it
anyway

3: Rehearse, rehearse, rehearse.

SECOND time you do a talk is ALWAYS better than the first. Third time ...

SECRET: don't show people bad first attempts.

I have SMALL NUMBER of people who I rope into watching my rehearsals.

Everyone else thinks it's pure talent.

ABOUT CONTROL. The more familiar you are with the material, the more you're in control, calmer.

Same reason I always ask to use my own laptop - AND I TEST IT AT THE VENUE - it's one more important thing that's in my control.

1: You only ever get to talk about one thing.

2: Tell a story.

3: Rehearse, rehearse, rehearse.

Enough theory. People learn by example, so let me explain one of my examples. So here's a lightning talk that I gave last June.

TOOK 4 minutes and 45 seconds
I'm going to spend about ten or fifteen minutes just tearing it apart.

WHAT DO YOU THINK was a good idea,
what worked and didn't work
how you might be able to apply that to your own.

Ready? Let's start.

How to fix wifi

Client spoke to me at our conference and said

“I have no way to see the performance of the wifi in our lecture theatres”

If you go “Hello helpdesk, I can’t connect to wifi in Lecture Theatre C”

Step 1: Send someone to check it out
after the lecture is already over

Step 2: Give up

Step 1: wait until the users leave the room
and go test

Step 2: that's it

There has to be a better way.

How to fix wifi

with crowdsourced monitoring

GN4 SA3T3

I'm Dave Wilson
This is How to fix wifi
With crowdsourcing
A GN4 activity

How to fix
with crowd
1: You only ever get
to talk about one thing.
GN4 SA3T3

LIGHTNING TALK, get to the point quickly. BUT THIS is the only bit in any talk where you have everyone's attention. Give reason to keep listening.

Didn't even start with my name, which is a bit extreme, but you often have a session chair, so you can make them do the work. STATE PROBLEM in a way audience can relate to. [BUILD]

Everything that follows is about this one thing.

DUMBING DOWN - you have to make the talk accessible. But anything can be described in general terms, then you can get deeper as you go.

Usually when people think of testing the network, they think probes.

There's good work being done on probes.

(Image: Sjell Lekkens of RIPE NCC <https://atlas.ripe.net/get-involved/community/#!actionshots>)



Probes

Upside

Measurements are objective

Reliable, comparable results

Downside

Installation cost

Not seeing
exactly what the user sees

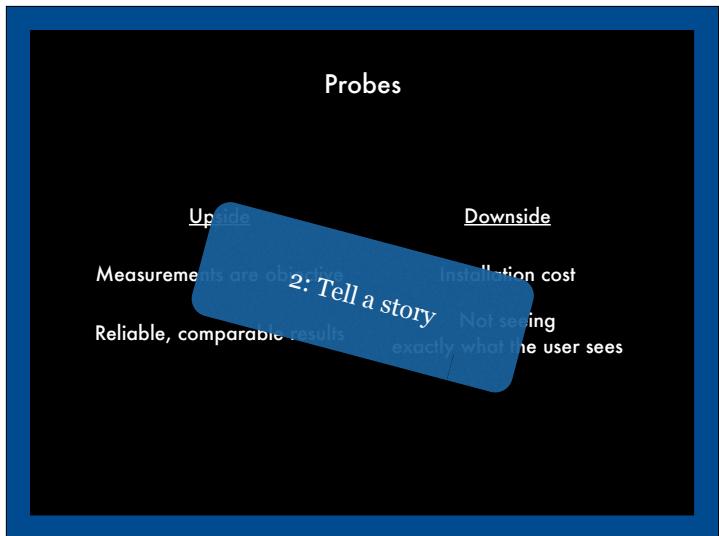
- you get objective measurements

- they're very reliable.

But they have drawbacks

- each one has an installation cost
- you're not seeing exactly what the user sees

Probes are great, we need probes, but can we do something else in addition.

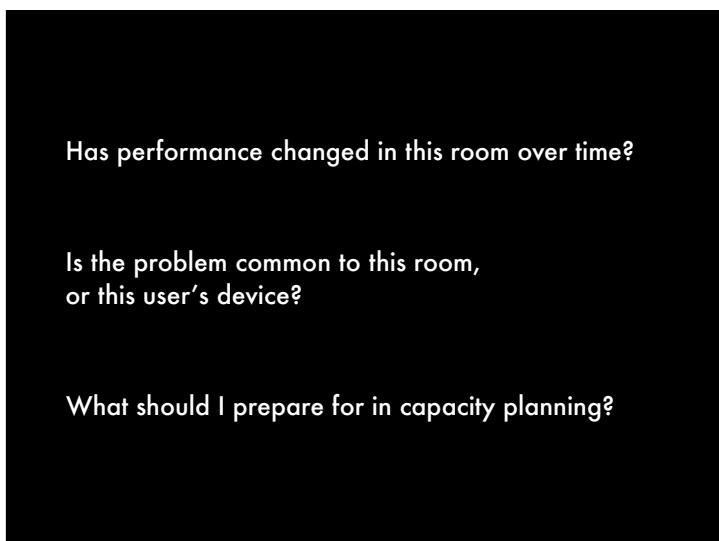


WHY this? pres has nothing to do with probes.

TEMPLATE, I would have started with the technology we're actually using. [BUILD] KNEW audience was used to thinking of performance measurement as something you do actively, inserting traffic.

IF I LAUNCH straight in with my thing, they'll think I'm trying to compete. And I'm gonna lose.

So REASSURE that the existing work is all still valid, I want to add something new alongside. After this, got no pushback. TIME TO EXPLAIN what I'm doing. You wouldn't believe how many presentations forget that.

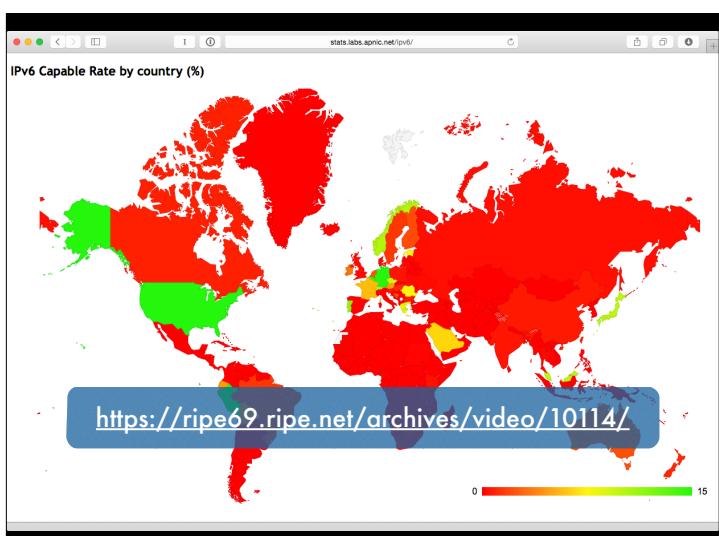


It boils up to questions like these. How do we do this?

Some of you might know Geoff Huston. Chief scientist of APNIC.

His team do something remarkable. They want to measure IPv6 and DNS performance on the internet as a whole. So they take out ads from Google. Make them unattractive to click.

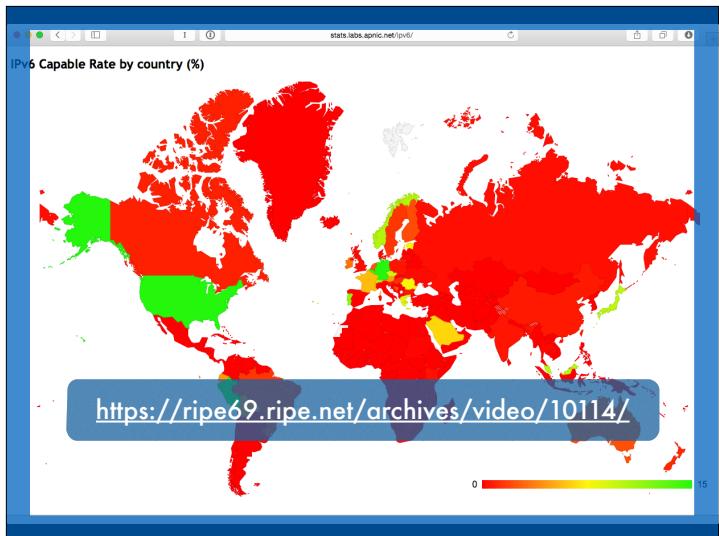
The ads are flash programs that do a little performance test, just seeing what DNS server you're using and whether you prefer v4 over v6, and report that back. The result...



Basically, they crowdsource results from actual users. That's a LINK to one of his talks.

This gets you noisy data, but if you have enough noisy data, that's ok.

Instead of worldwide, can we do this inside a room? Inside a campus? From a browser?



90 SECONDS in. That's a lot of time to spend in a lightning talk without actually describing what you've done.

EVERY WORD so far has been groundwork and it makes the actual explanation very short.

REMEMBER I said that everything has to support the one thing you're talking about?

Now I get to do this:

What we need	Javascript	RADIUS/DHCP
ID of access point		ID of access point
Performance result	Performance result	
Timestamp	Timestamp	Timestamp
	IP address	IP address

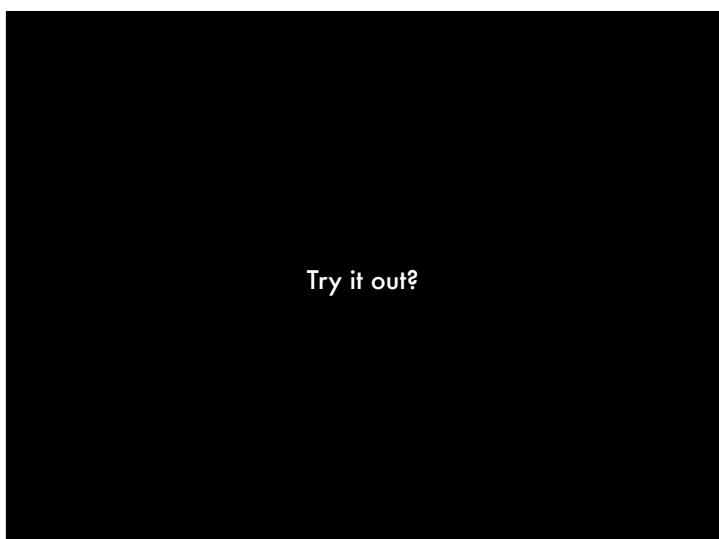
To do this on a campus, we need these three things.

- where you're connected
- how good your performance is
- what time is it

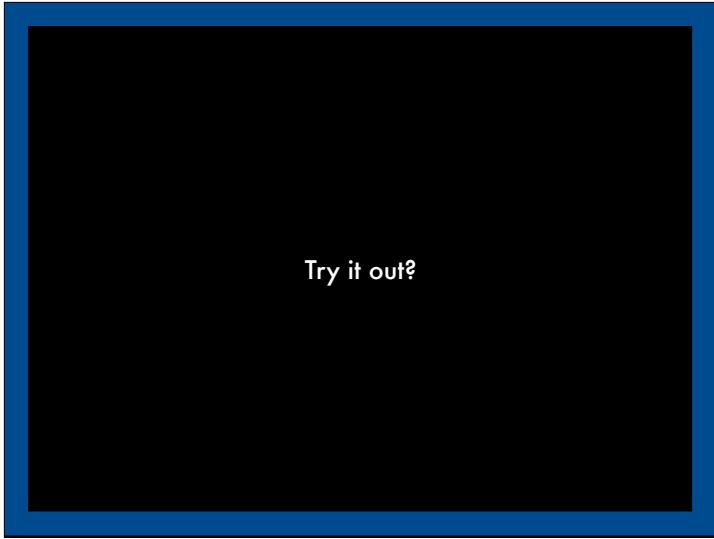
There are Javascript tools for performance testing.

But you can't get ethernet details from inside the browser.

But the Radius information has a link between an IP address and an access point. That's enough.



In theory.



Try it out?

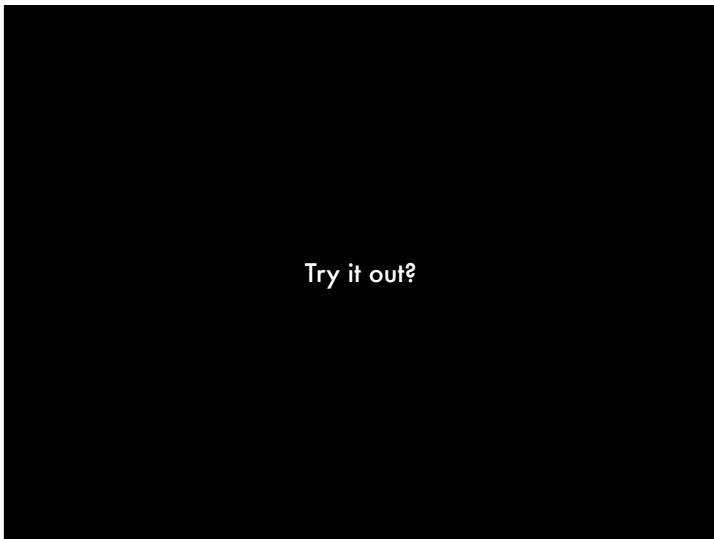
2 MINUTES I've explained project in the abstract.

Honestly, for a lightning talk, that's enough.

SURPRISE PLANNED. Now I didn't know until the night before the talk if the surprise was going to work.

IF NOT, I could easily take those two minutes and make it five, and that's a fine lightning talk.

But then I paused - breathe - and did something strange. I introduced doubt. You're not usually supposed to do that.



Try it out?

In theory. How do we try it out?

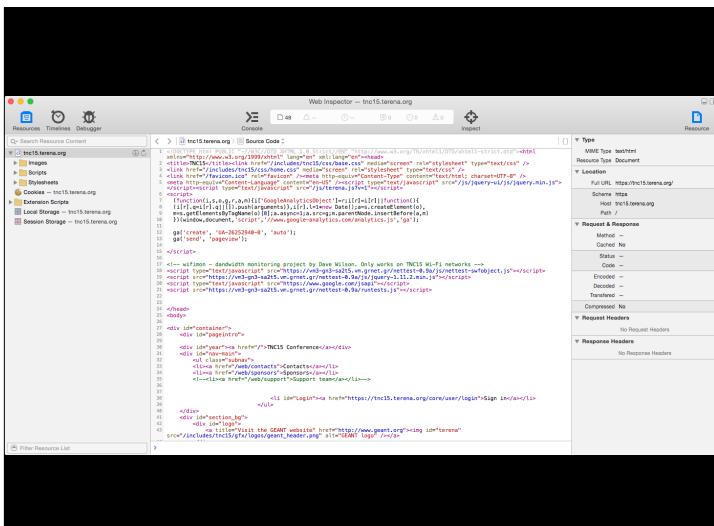
There are a lot of leaps of faith here.

Can we really get all the info we need? Will the data we get from users be any good?

Is there anywhere we could try it out?

We need somewhere with a few hundred users, in a lecture like environment, and they're all visiting the same website over a matter of a few days.

Where might we find something like that?



I contacted the conference webmasters just last week and said
“Hey, can we insert some javascript on your website please?”

```
<!DOCTYPE html PUBLIC "-//IETF//DTD HTML 2.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"><html xmlns="http://www.w3.org/1999/xhtml" lang="en"><head>
<title>TNC15</title><link href="/includes/tnc15/css/base.css" media="screen" rel="stylesheet" type="text/css" />
<link href="/favicon.ico" rel="favicon" /><meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<meta http-equiv="Content-Language" content="en-US" /><script type="text/javascript" src="/js/jquery-ui/js/jquery.min.js">
</script><script type="text/javascript" src="/js/terena.jsv=1"></script>
<script type="text/javascript" src="/js/terena.jsv=1">
(function(i,s,o,g,r,a){if(!r[i])r[i]=[];i[r].q[i||(r[i]={})].push(arguments),i[r].l=new Date();ans.createElement(o),
ms.getElementsByTagName(o)[0].a.async=1;a.src=rgin.parentNode.insertBefore(o,m)
})(window,document,'script','//www.google-analytics.com/analytics.js','ga');
ga('create', 'UA-26252940-8', 'auto');
ga('send', 'pageview');
</script>
<!-- wifi = bandwidth monitoring project by Dave Wilson. Only works on TNC15 Wi-Fi networks -->
<script type="text/javascript" src="https://vm3-pn3-sa2t5.vn.gmet.gr/nettest-0.9a/js/nettest-swfobject.js"></script>
<script type="text/javascript" src="https://vm3-gn3-sa2t5.vn.gmet.gr/nettest-0.9a/js/jquery-1.11.2.min.js"></script>
<script type="text/javascript" src="https://www.google.com/jsapi"></script>
<script src="https://vm3-gn3-sa2t5.vn.gmet.gr/nettest-0.9a/runtests.js"></script>
</head>
<body>
<div id="container">
<div id="pageintro">
<div id="year"><a href="#">TNC15 Conference</a></div>
<div id="nav-main">
<ul class="subnav">
<li><a href="#">Web/contacts</a></li>
<li><a href="#">Web/sponsors</a></li>
<li><a href="#">Web/support</a></li>>
<li id="Login"><a href="https://tnc15.terena.org/core/user/login">Sign in</a></li>
</ul>
</div>
<div id="section_bg">
<div id="logo">
<a title="Visit the GEANT website" href="http://www.geant.org"><img id="terena" alt="GEANT logo" /></a>
src="/includes/tnc15/gfx/logos/geant_header.png"

```

and they said “yes!”

```
<!DOCTYPE html PUBLIC "-//IETF//DTD HTML 2.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"><html xmlns="http://www.w3.org/1999/xhtml" lang="en"><head>
<title>TNC15</title><link href="/includes/tnc15/css/base.css" media="screen" rel="stylesheet" type="text/css" />
<link href="/favicon.ico" rel="favicon" /><meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<meta http-equiv="Content-Language" content="en-US" /><script type="text/javascript" src="/js/jquery-ui/js/jquery.min.js">
</script>
<script type="text/javascript" src="/js/terena.jsv=1"></script>
<script type="text/javascript" src="/js/terena.jsv=1">
(function(i,s,o,g,r,a){if(!r[i])r[i]=[];i[r].q[i||(r[i]={})].push(arguments),i[r].l=new Date();ans.createElement(o),
ms.getElementsByTagName(o)[0].a.async=1;a.src=rgin.parentNode.insertBefore(o,m)
})(window,document,'script','//www.google-analytics.com/analytics.js','ga');
ga('create', 'UA-26252940-8', 'auto');
ga('send', 'pageview');
</script>
<!-- wifi = bandwidth monitoring project by Dave Wilson. Only works on TNC15 Wi-Fi networks -->
<script type="text/javascript" src="https://vm3-pn3-sa2t5.vn.gmet.gr/nettest-0.9a/js/nettest-swfobject.js"></script>
<script type="text/javascript" src="https://vm3-gn3-sa2t5.vn.gmet.gr/nettest-0.9a/js/jquery-1.11.2.min.js"></script>
<script type="text/javascript" src="https://www.google.com/jsapi"></script>
<script src="https://vm3-gn3-sa2t5.vn.gmet.gr/nettest-0.9a/runtests.js"></script>
</head>
<body>
<div id="container">
<div id="pageintro">
<div id="year"><a href="#">TNC15 Conference</a></div>
<div id="nav-main">
<ul class="subnav">
<li><a href="#">Web/contacts</a></li>
<li><a href="#">Web/sponsors</a></li>
<li><a href="#">Web/support</a></li>>
<li id="Login"><a href="https://tnc15.terena.org/core/user/login">Sign in</a></li>
</ul>
</div>
<div id="section_bg">
<div id="logo">
<a title="Visit the GEANT website" href="http://www.geant.org"><img id="terena" alt="GEANT logo" /></a>
src="/includes/tnc15/gfx/logos/geant_header.png"

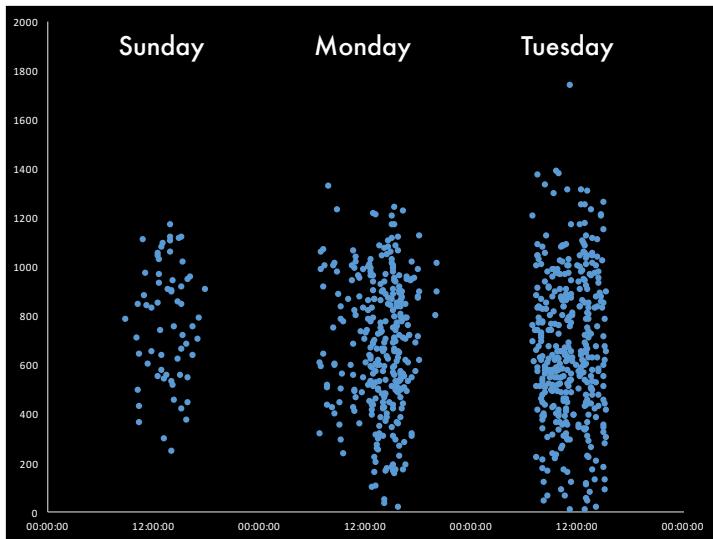
```

By any normal standards this is a TERRIBLE SLIDE.
But because I’m telling a story, the audience isn’t trying to read this.
They’re LISTENING to me.

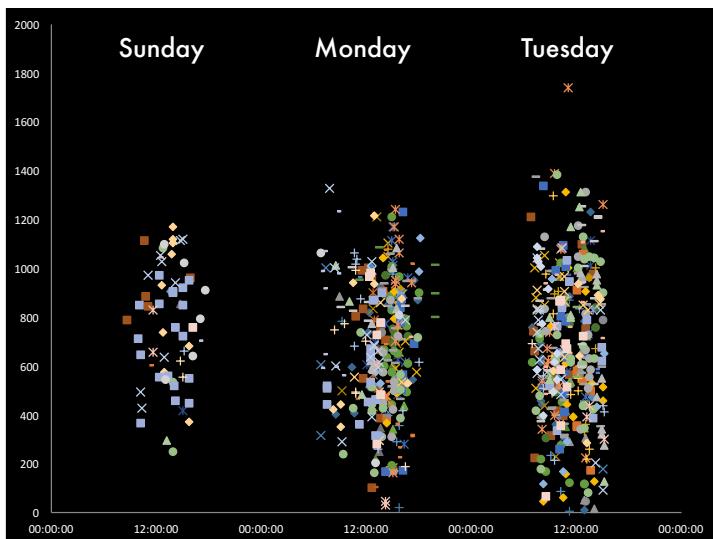
```
<!DOCTYPE html PUBLIC "-//IETF//DTD HTML 2.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd"><html xmlns="http://www.w3.org/1999/xhtml" lang="en"><head>
<title>TNC15</title><link href="/includes/tnc15/css/base.css" media="screen" rel="stylesheet" type="text/css" />
<link href="/favicon.ico" rel="favicon" /><meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<meta http-equiv="Content-Language" content="en-US" /><script type="text/javascript" src="/js/jquery-ui/js/jquery.min.js">
</script>
<script type="text/javascript" src="/js/terena.jsv=1"></script>
<script type="text/javascript" src="/js/terena.jsv=1">
(function(i,s,o,g,r,a){if(!r[i])r[i]=[];i[r].q[i||(r[i]={})].push(arguments),i[r].l=new Date();ans.createElement(o),
ms.getElementsByTagName(o)[0].a.async=1;a.src=rgin.parentNode.insertBefore(o,m)
})(window,document,'script','//www.google-analytics.com/analytics.js','ga');
ga('create', 'UA-26252940-8', 'auto');
ga('send', 'pageview');
</script>
<!-- wifi = bandwidth monitoring project by Dave Wilson. Only works on TNC15 Wi-Fi networks -->
<script type="text/javascript" src="https://vm3-pn3-sa2t5.vn.gmet.gr/nettest-0.9a/js/nettest-swfobject.js"></script>
<script type="text/javascript" src="https://vm3-gn3-sa2t5.vn.gmet.gr/nettest-0.9a/js/jquery-1.11.2.min.js"></script>
<script type="text/javascript" src="https://www.google.com/jsapi"></script>
<script src="https://vm3-gn3-sa2t5.vn.gmet.gr/nettest-0.9a/runtests.js"></script>
</head>
<body>
<div id="container">
<div id="pageintro">
<div id="year"><a href="#">TNC15 Conference</a></div>
<div id="nav-main">
<ul class="subnav">
<li><a href="#">Web/contacts</a></li>
<li><a href="#">Web/sponsors</a></li>
<li><a href="#">Web/support</a></li>>
<li id="Login"><a href="https://tnc15.terena.org/core/user/login">Sign in</a></li>
</ul>
</div>
<div id="section_bg">
<div id="logo">
<a title="Visit the GEANT website" href="http://www.geant.org"><img id="terena" alt="GEANT logo" /></a>
src="/includes/tnc15/gfx/logos/geant_header.png"

```

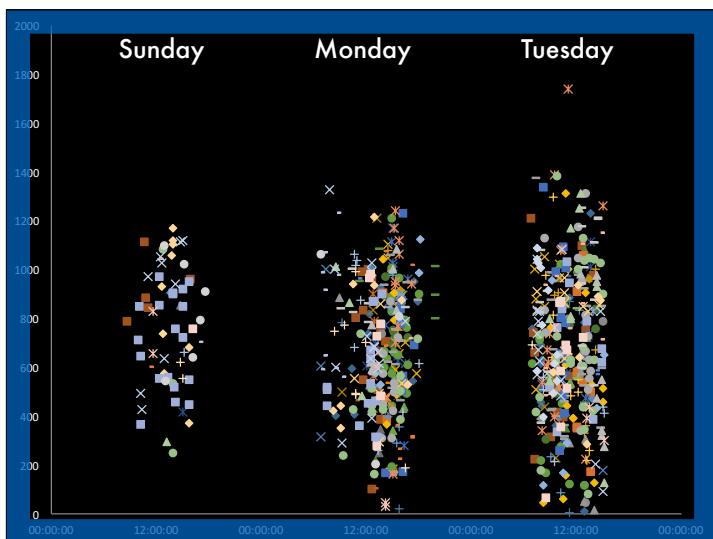
and they said “yes!”
And I emailed the wifi team and said “can I analyse your radius logs please?”
and he said yes.
I have something to tell you today.
If you’ve been using eduroam in this building, and you’ve been using the conference website
You’ve been helping us to performance test the network
and I would like show you the results.



This is the measured download speed, in kbyte/sec, for our test file every time someone visited the TNC website from here. And not only that...



...but we can separate it by access point as well.



GOD that bit was so much fun!
SURPRISE is tremendously powerful.
CONVENTIONAL ADVICE: “Say three times”
That’s in here: problem statement up front, now the audience is ready for it.
IF YOU START by opening powerpoint or keynote
FILLING IN TEMPLATE
MURDERS surprise
IMAGINE if I had started with a conventional agenda:

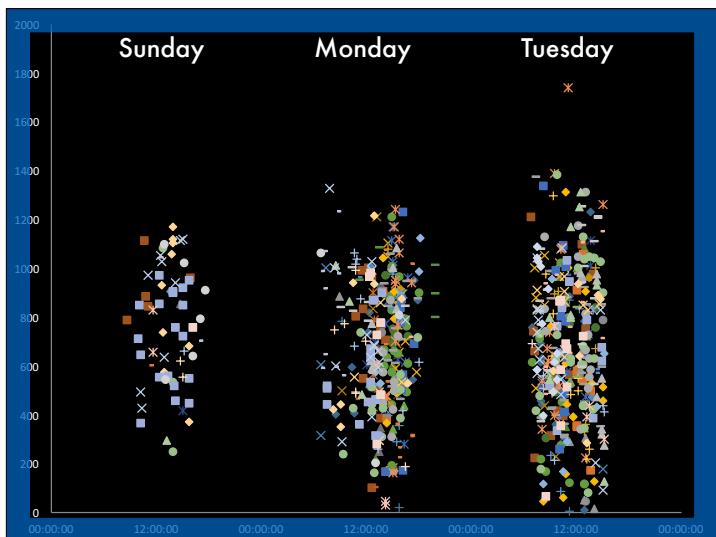
Agenda

- Why measuring wifi is so difficult
- Other methods of monitoring
- Our technical approach
- Results from this event
- Conclusions and next steps

"hello, my name is dave wilson and I'm going to talk about crowdsourced monitoring. I'm going to start by explaining why measuring wifi is more difficult than fixed line, talk about some other projects, then I'll describe the approach that we use, then some of the results we've seen from what we're doing at this event"

- this is death! but it's EXACTLY THE SAME MATERIAL. It's even the same structure! and I wasted ten or fifteen percent of my five minutes on this crap.

SURPRISE with care. If it comes from nowhere, it just bamboozles people, you get no benefit. It's why you CONSTRUCT your story, and it's why you STICK TO ONE POINT - everything else you say before the reveal is getting the audience ready.

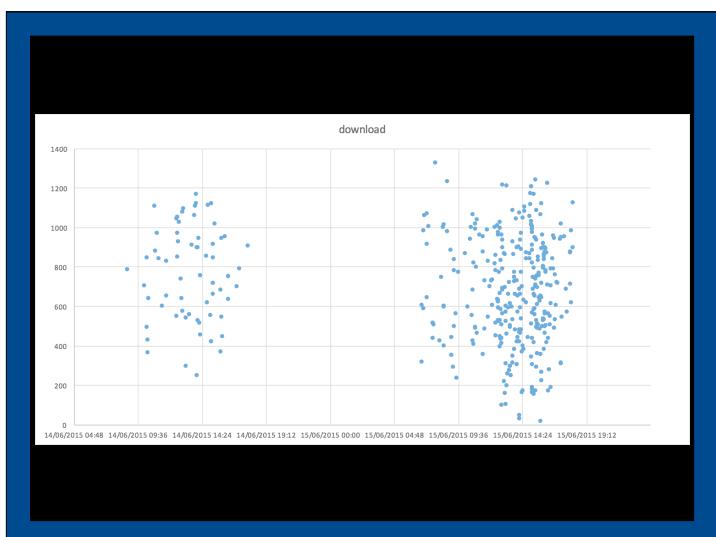


WHERE NOW. I've shown that we've done something cool, and got people curious. NOW DELIVER. Scariest part. SIX week old project. SCRIPTS didn't exist on the Monday. I couldn't write them, I didn't have logs.

1: SPENT TUESDAY just pulling out any results that showed something I could explain. I didn't need to show any behaviour in particular - just something that demonstrated we could do it.

2: MADE THEM LOOK NICE. All the graphs are copied and pasted from excel, but I spent quite a lot of time on them.

Here's why.



This is what excel gives if you don't mess with it.

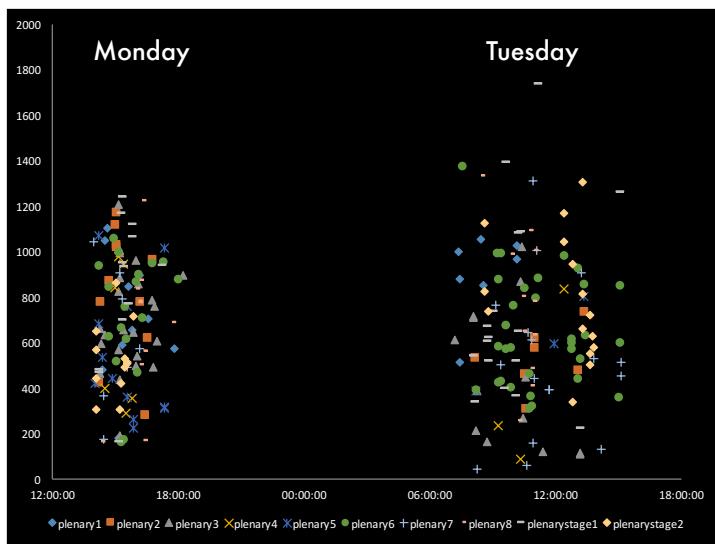
FINE FOR A PRINTOUT.

But FLASHING ON SCREEN to support a story, the AUDIENCE HAS TO WORK to try and work out what's going on.

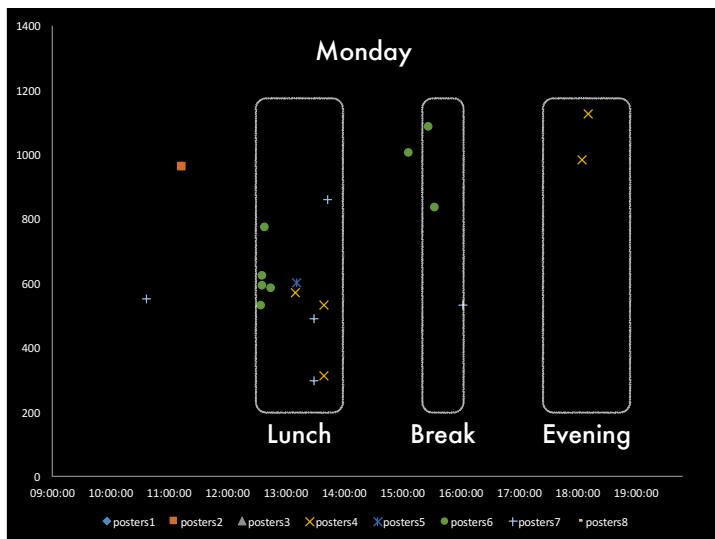
SPENT TIME making sure

- the important stuff was visible
- the rest wasn't visible
- and then highlighting the parts that told my story.

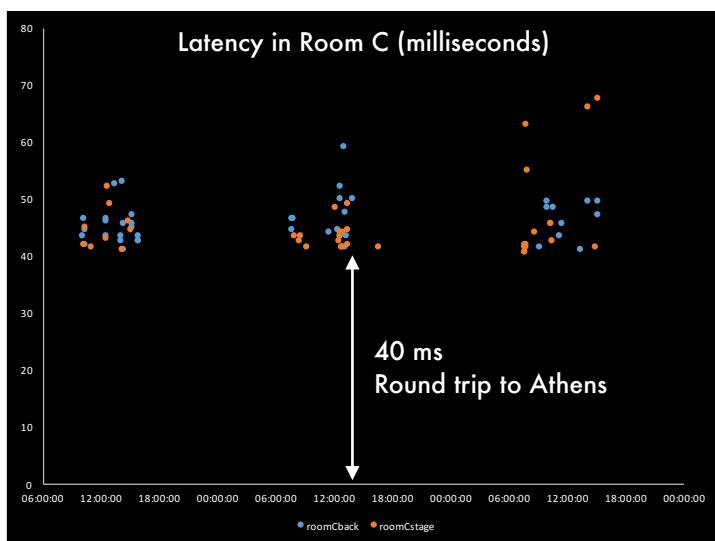
Ok, back to the talk. For the next bit, keep an eye on how quickly I move. I'm saying exactly one thing about every graph I show.



For example, here's the plenary room on Monday and Tuesday.
It was empty overnight.



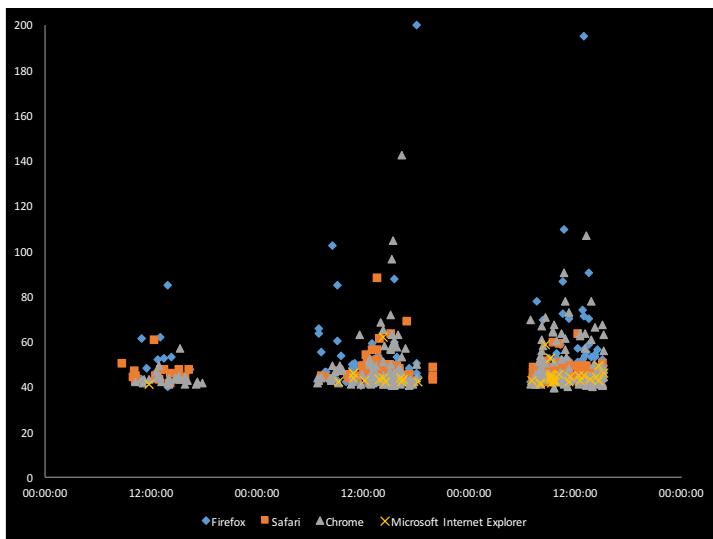
I like this one. This is the poster area on Monday. Looks quite sparse (BUILD) until you notice when the breaks were.



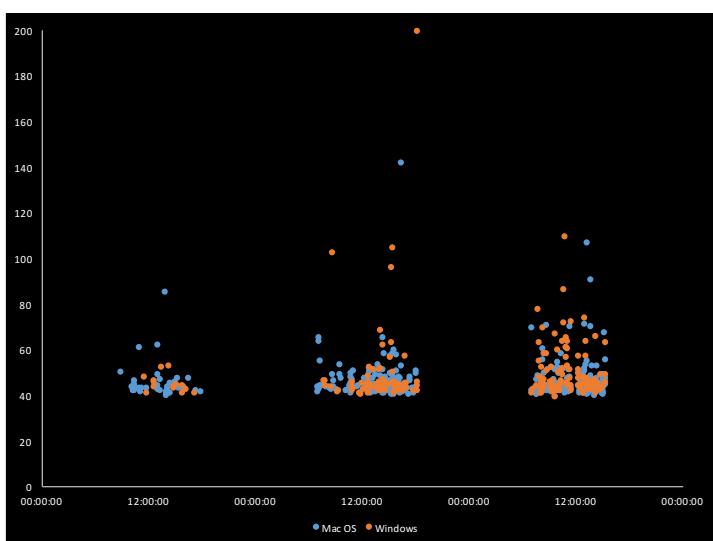
As well as download speed, we also get a latency measure. This is room C. What's the big gap? (BUILD)
That's the distance between room C and our server in Athens. Otherwise it looks pretty healthy. Almost everyone is in a 10ms range.



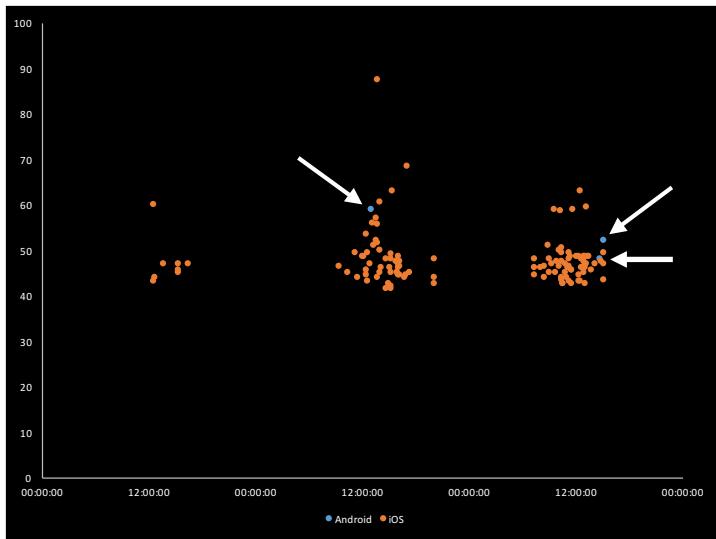
Meanwhile, back in the Plenary room.
(BUILD)
What's going on here?
One user, 2.5 seconds.
Tried again immediately, 58 ms.
If we saw a line of these, we know either a
room has a problem, or a device has a
problem - and we can work out which.



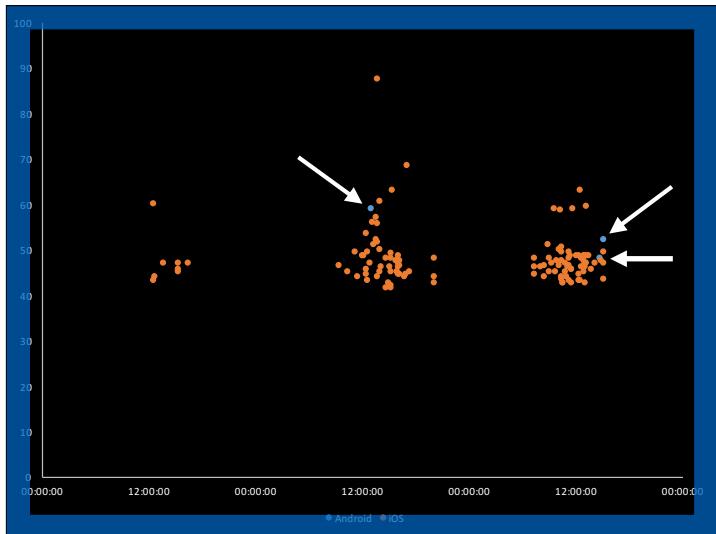
We can break it down by browser



Mac vs. Windows



I tried to do Android vs. iOS too but apparently only three Android people are on the internet.



THAT WAS FUN, but time to wrap things up.

ENDING is really important. Whatever promises you've made, you need to fulfil them now.

MOOD AT THE END is the mood people take from your talk. Most stories have happy endings, right?

So, gotta do two things

- EXPLAIN what this all really means, don't leave the audience to work it out.
- GIVE SOMETHING TO DO with this new information. Presentations do nothing. You have to tell the audience what to do next.

Don't load two versions of jquery on the same site

We can afford to be much more aggressive with testing

Sometimes it's quicker to try something and see

So what have we learned? - jquery

- The error bars on these tests are very wide. It's hard to differentiate a lot of it.
- This was because we were very conservative about the load of the test. We got very accurate results on our desktops but tuned the load down. I think we can tune that back up.
- Most importantly: our project began a matter of weeks ago. Instead of sitting down and specifying carefully, we tried something to see if we can make this work.

The data you've seen looks very nice, but now, six weeks into our GN4 activity, we have real data from a network that will shape the rest of our activity.

Don't load two versions of jquery on the same site

We can afford to be much more aggressive with testing

Sometimes it's quicker to try something and see

THIS, by the way, was my one big point.
FOR THE AUDIENCE I had, I wanted to
show that even in our big, European
project, we can do stuff like this.

WOULD USUALLY be a lot more explicit
about it.

But this one, there's no point just standing
up and PREACHING. The problem isn't
that people don't believe it, it's that they
don't see how to do it in their
environment.

So this was about PROVING that it could
be done.

Don't load two versions of jquery on the same site

We can afford to be much more aggressive with testing

Sometimes it's quicker to try something and see

If you have ideas on how to use data like this,
please contact me.

THANKS!

GN4	Kurt Baumann	Brian Bach Mortensen
	James Healy	Erik Kikkenbourg
	Vasileios Kokkinos	Kostas Stamos
	Jørn de Jong	Arne Oslebo
	Nikos Kanakis	Victor Reijs

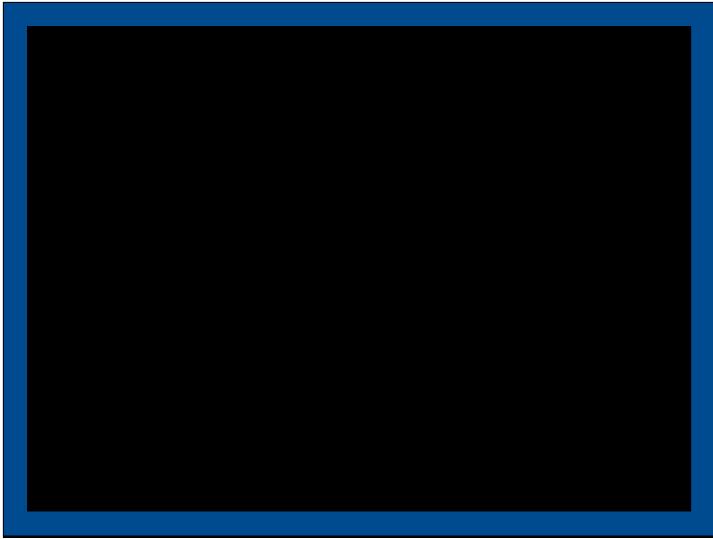
TNC	Dick Visser	Christian Gijtenbeek
	Pedro Simoes	George Almeida

dave.wilson@heanet.ie

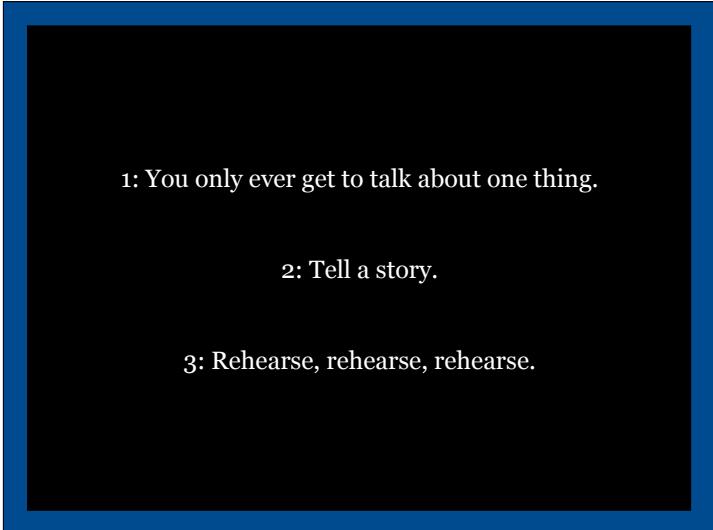
Twitter: @davegw

Thank you to all these people for their
help.

Thank you very much for listening



Ok. That's some ideas on "how"



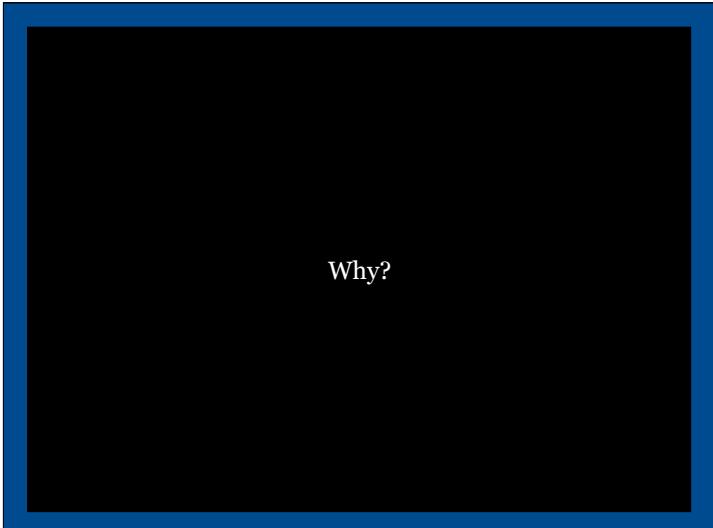
1: You only ever get to talk about one thing.

2: Tell a story.

3: Rehearse, rehearse, rehearse.

JUST THE ONES that work for me.
GET COMFORTABLE is the most
important. A lot of you probably have your
own rules that are different to these. And
they work for you.
This only comes out of TRYING THINGS,
making mistakes and trying other stuff.

FEEDBACK is amazing for this. Some of
the best feedback you get is in
anonymous comments, and RIPE is really,
really good for this.
[example of ipv6 talk - minimal slides]



Why?

But the important thing isn't how.
The important thing is why.
Why go to the trouble of standing up here
and doing this?

There are two reasons.

Your ideas are good.
Everyone else doesn't know this yet.

OBVIOUS one is that, you have ideas,
good ideas.
They probably feel pretty obvious to you.
I AM TOO DIM to understand them.
I need them explained to me.

So you benefit by having your IDEAS
HEARD more widely and UNDERSTOOD
more readily.

But there's another thing.

The process of public speaking
is the process of understanding others.

SKILL doesn't just apply to being on stage.
THESE are skills in understanding what other people want, getting inside their heads. We're not here to persuade people of something they don't want, or that's bad for them.
You're TRYING TO FIND the reason why they should care as much as you do.
MEETING with CEO, prepare same way.
TALKING to customers, listening to what they want, so I can show I'm solving their problems.
By getting better at public speaking, you become better at listening and understanding other peoples' points of

Confessions of a Public Speaker
Scott Berkun

Presentation Zen
Garr Reynolds

If you DON'T USUALLY SPEAK, I'd really really encourage trying.
SCARY at first - and it's always scary, but that's normal human nature. LIZARD BRAINS.
ALWAYS better than you think.

If I've piqued your interest, I thoroughly recommend these books. The first one is an O'Reilly book, you can get the ebook DRM free. The second one is surprisingly short, but it fits very well inside my head and very heavily influenced me.

One last thing.

I said that the START is the most important part of the presentation. But you also need a really GOOD ENDING.

“say three times” tells you that you should summarise, can recap, but don’t need to repeat.

What you have to do here is make it clear WHY IT’S IMPORTANT to the audience, TELL THEM WHAT THEY CAN DO next.

And finally, instead of trailing off, end on a good, solid note that signals the audience that now it’s time to applaud. And that can be as simple as this:

...Thank you very much.

Thank you