**Network time protocol**

And that's where we enter Network Time Protocol, or NTP.

So the way Network Time Protocol works is we have this NTP

server. Now where does the NTP server come from?

Well we can set one up on our own network.

We can actually make our routers into NTP servers if we wish.

Typically, in a large enterprise network, the NTP

server is oftentimes on the DNS server,

but really what's happening here is the NTP server that you have

within your organization is most likely going to synchronize with

some NTP server that's out on the internet.

Well,

there is a URL we can use, time.nist.gov, and that is the

universal locater for a time server nearest to you. When you do

a ping to time.nist.gov, what you get back is the IP address of

the nearest NTP server to you.

So what we can do is we can have our NTP server within our organization,

coordinate with NTP servers out on the internet.

Why is it important to coordinate with them out on the internet?

Well,

if you use that time.nist.gov URL, what you're going to be doing is

you're going to synchronize with a server that acquired its time from

some atomic clock some place on earth.

So there is an atomic clock that's keeping track for humans so

that we know exactly what time it is at any given second down to

some ridiculous level of accuracy.

We can actually synchronize our time servers with that one. For the time being,

let's assume that our NTP server here is actually out on the internet,

it is one that we got from time.nist.gov and what we do then is we

configure each of our routers as an NTP client, and what happens then

is after we configure them as an NTP client, we send a message to the

NTP server saying, hey,

what time is it, and the NTP server sends back a message

and says it's October 7th at 7:56 PM.

And now all three of our routers are configured with the same exact time.

So now should an event occur on any of these routers and we

report it to our syslog server, our syslog server will now record those events with the correct time.