



# Air Traffic Control Insecurity 2.0

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# Agenda

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- Who am I?
- Overview from last year
- Insecurity's today
- Jet tracking



# Who am I?

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- Security Field for >13 years
- Worked with secure operating systems: B1, B2
- Firewalls, proxies
- Trainer
- CISSP, CISA
- Ham Radio
- Private Pilot
- DEF CON presenter last year



# First

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- Is flying safe? **YES**
- Are planes going to fall out of the sky after this talk? **NO**
- Is flying safe after this talk? **YES**
- Is some of this talk illegal? ???

Disclaimer: Don't do this!



# Pilots?

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- Is any one a pilot?



# Our Focus

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- We are not going to focus on:
  - Airport physical security
  - Cockpit door security
  - X-Ray security
- Our focus:
  - Computers used by ATC
  - How airplanes report their position to ATC
  - NexGen ATC



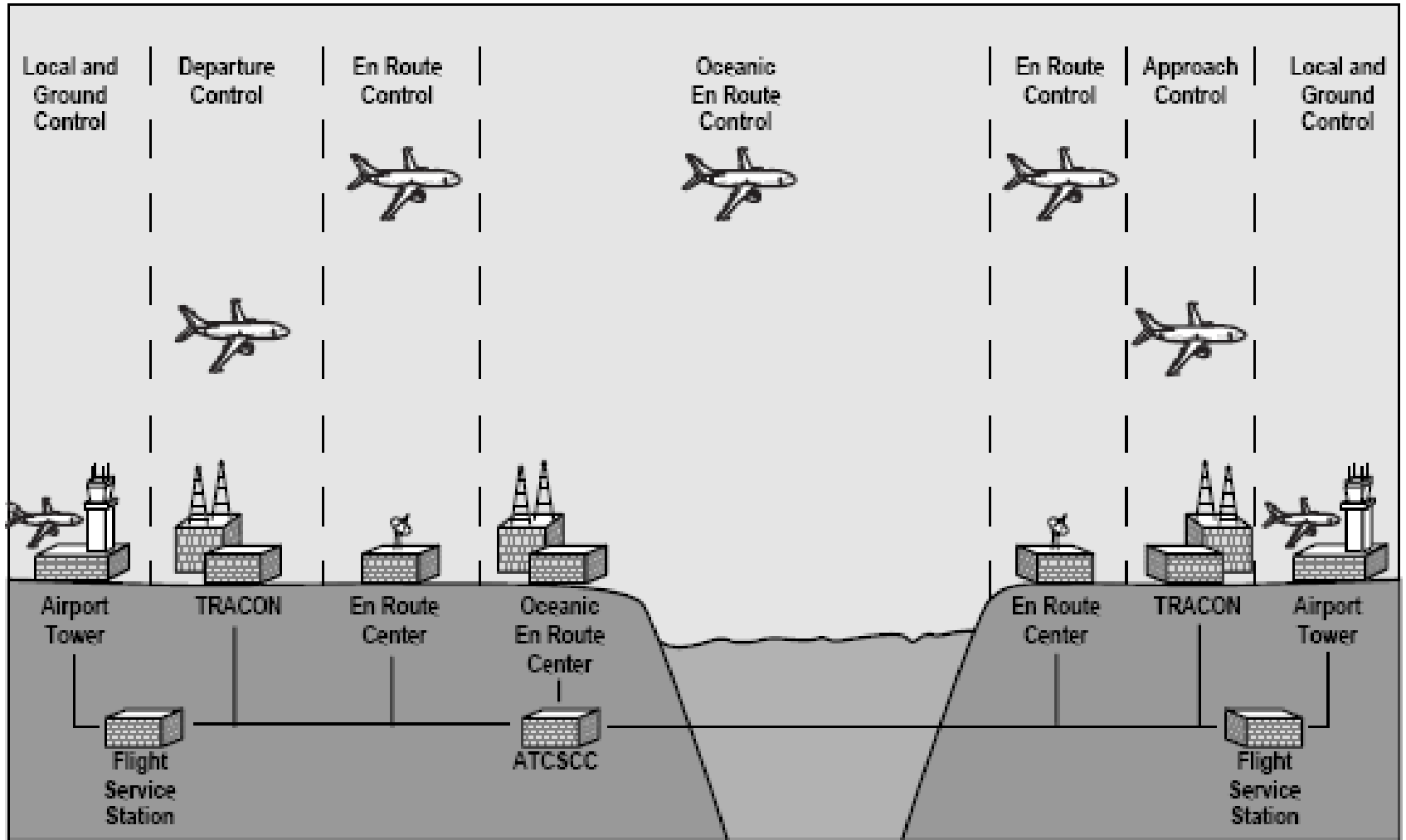
## Why?

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- ATC is busy moving planes through the air
- ATC not focused on network security of equipment being used
  - Who would want to hack a radar scope?

# ATC

- What is ATC?







# NextGen ATC

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- Converting from proprietary hardware to commercial off the shelf hardware
- Phasing out radar
- Airplanes transponder will report Lat., Long., and Alt. in clear txt
  - ADS-B

# Airplane Transponder

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Source: Wikipedia



# ADS-B Insecurity

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- Who am I and where am I in one unencrypted packet
- GPS will be the backbone of NextGen
  - Oh, and GPS sats are failing faster than expected
- One could easily fake an ADS-B transmission
  - No radar to verify true position



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- More to come...



# Call to Action

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- Listen to ATC
- View ADS-B broadcasts
- Become a Pilot



# Conclusion

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- ATC Background
- State of Airline Security



# Questions

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# References

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- [http://www.oig.dot.gov/StreamFile?file=/data/pdfdocs/ATC\\_Web\\_Report.pdf](http://www.oig.dot.gov/StreamFile?file=/data/pdfdocs/ATC_Web_Report.pdf)
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