Air Traffic Control
Insecurity 2.0

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Agenda

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

- 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

- 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?

- Is any one a pilot?
Our Focus

- 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?

○ 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?

Source: GAO/T-AIMD-00-330 FAA Computer Security
NextGen ATC

- 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

ADS-B Insecurity

- 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
More to come...
Call to Action

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

- ATC Background
- State of Airline Security
Questions
References

- http://online.wsj.com/article/SB124165272826193727.html#