NAS Infrastructure Management

Infrastructure and Evolution

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The NAS Infrastructure a Brief History

- **Born in 1958**
- **Civil Aeronautics Board said**
  - Inadequacy of facilities
  - Lack of Air Traffic Controllers
- **President's Aviation Study Group said**
  - Lack of capacity in the air space
  - Increased risk of collision

State of the Infrastructure - Then

- **Started with –**
  - 10 airport radars
  - 100 instrument landing systems
  - 1 long range radar
  - 350 en-route navigational aids
  - Other various navaids

State of the Infrastructure - Now

- **Evolved to**
  - 300 Airport Radars
  - 100 Long Range Radars
  - 1000 En-route Navigational Aids
  - 1134 Instrument Landing Systems
  - New visual aids -- lights
  - New Automation Systems
  - Lots of new stuff
  - Over 30,000 different pieces across the NAS

State of the Infrastructure - Now

- **Continues to age**
- **Impacts of Mother Nature**
  - Lightning
  - Wind
  - Fog
  - Rain, snow and ice
  - Salt air
  - Erosion

Evolution of the Infrastructure

- **Functionally**
  - Core functions of field – fix it when it breaks, certify it, maintain it, modify it
  - Centralized Operational Control Centers
  - Remote Monitoring
  - Prioritized response
  - Dispatch from “local” work centers

Evolution of the Infrastructure

- **Organizationally**
  - From “manage to budget” to “manage to cost”
  - Striving to operate more efficiently
  - Measuring unit cost
  - Unit = 1 hour of availability

Final Thoughts

- **We are using technology as it evolves**
  - Faster, more complex, more accurate
  - Copper to fiber
  - Batteries vs. engine generators
- **We still have 40+ yr old facilities**
- **We still have facilities sited to old requirements**
- **We are paying attention to costs**