A decorative graphic on the left side of the slide shows a portion of a globe with a grid of latitude and longitude lines. A white airplane is shown flying across the sky, leaving a white contrail that extends across the globe.

TIS-B MASPS Issues

September 2002

Integrity Monitoring

- **TIS-B Target Reports must announce NAC, NIC, SIL**
- **Very little is said about how to calculate these**
- **We are developing new material recommending good practices, but these may not be required for initial situational awareness applications**
- **NIC & SIL have two components:**
 - **Sensor Integrity**
 - **Track Integrity**
- **A related, new factor is time to “alarm”, or reduce the reported integrity**
 - **This is separate from deciding to alert the flight crew -- must be determined on application basis**

Sensor Integrity

- **Sensor Calibration and Report Compensation**
 - Reduce bias errors
 - Performed for initial commissioning and regularly by measurement of known static source (“parrot”)
- **Ongoing sensor monitoring**
 - Cross-checking of measurements
 - Compare measurement of aircraft seen by overlapping sensors
 - Compare measurement with aircraft navigation data broadcast on ADS-B
 - Loss-of-integrity Alert is required
 - Must account for correlated errors (e.g., transponder turnaround time)

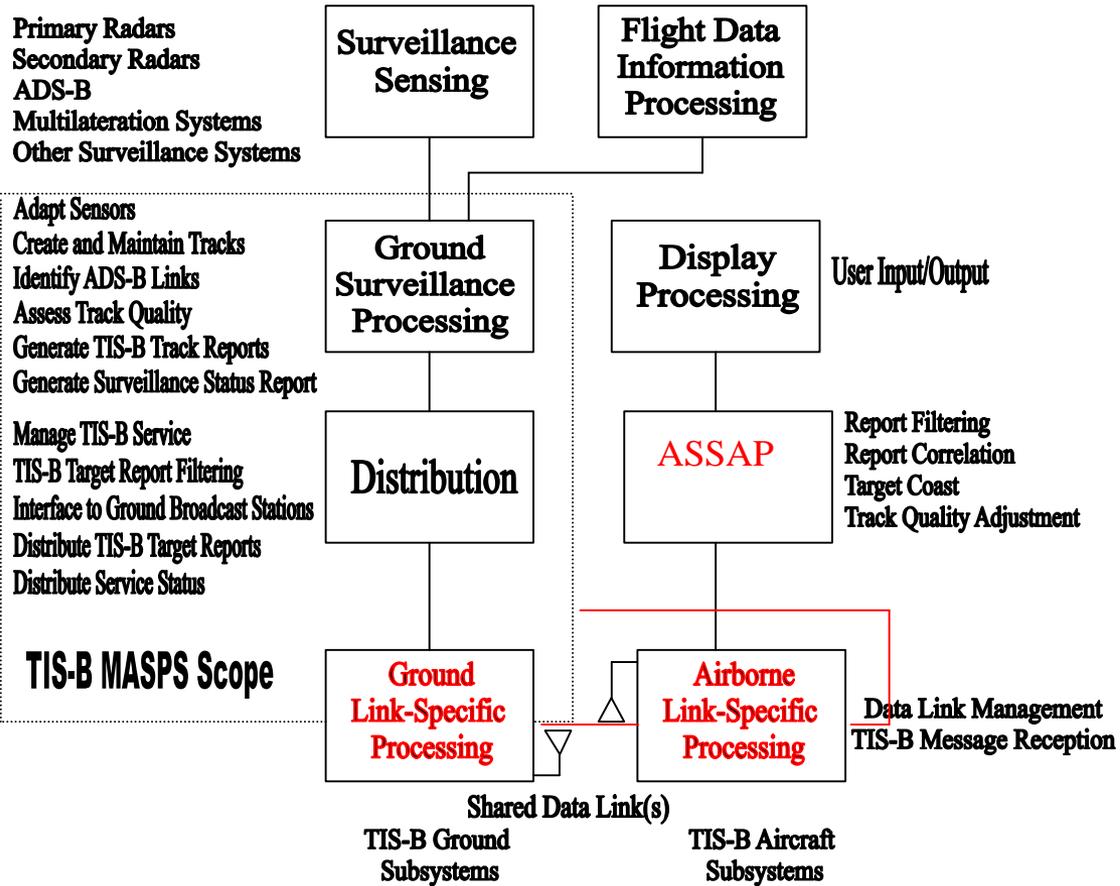
Track Integrity

- **The premise is that surveillance data has integrity when a track's predicted position is in close agreement with the next measured position**
- **Compare Residuals (differences) between sensed plot position and predicted track position**
- **Account for measurement noise, realistic target dynamics (speed, maneuvering)**

Clarity/ADS-B Compatibility

- **We agreed to make improvements to promote/assure compatibility between ADS-B and TIS-B to the extent possible**
- **Explicitly define TIS-B Target Report contents**
- **Repeat or reference all applicable ADS-B requirements, or develop corresponding requirements**
- **Scope must include Airborne Link-Specific processing to reconstruct a TIS-B Target Report and output to ASSAP**

TIS-B Scope



Clarity/ADS-B Compatibility (continued)

- **Application requirements must come from ASA MASPS. ADS-B MASPS gives air-air requirements which are not appropriate for a TIS-B specification.**
- **TIS-B Service Volume should be defined assuming airborne Equipage Class (ref: ADS-B MASPS) appropriate to the applications supported**
- **Latency requirement and allocation between ground and airborne equipment**
- **Scope and definition of Time of Applicability of Target Report**