



ATN'99 INTERNATIONAL CONFERENCE

22-23 September 1999 London

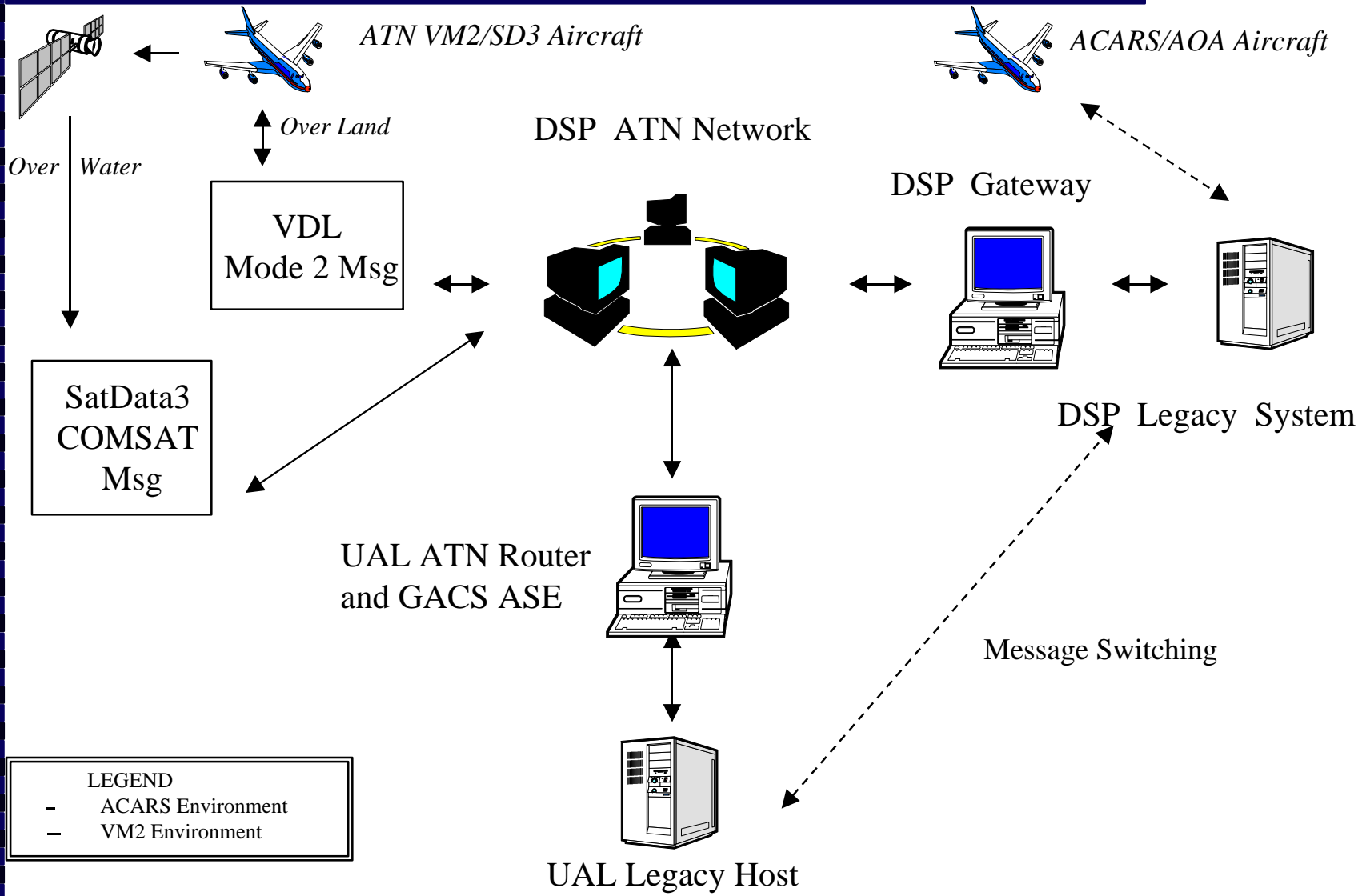
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PRESENTATION OUTLINE



- **United Airlines' Datalink System, Present and Future**
- **Existing Capabilities, and Implementation Options**
- **Company Policy, Approach Philosophy and Aircraft Equipage Plans**
- **ATN Integration and Implementation with Legacy Host Systems**

PRESENT AND FUTURE



LEGEND
 - ACARS Environment
 - VM2 Environment

EXISTING CAPABILITIES



- **Fleet Wide ACARS (about 600 aircraft)**
- **SATCOM on Oceanic 747,767 & 777**
- **747-400 and 777 FANS-1**
 - **Operational in Asia/Pacific Region**
 - **Pre-Operational in North Atlantic Region**
 - **PETAL II Participant**

IMPLEMENTATION OPTIONS



- **Fleet Wide Implementation of ATN and VM2/SD3 for AOC & ATC Applications**
- **Possible Implementation Phases:**
 - **ACARS (VMA, SD2, HF/DLS)**
 - **VM2/AOA**
 - **ATN for AOC with Ground System Upgrade**
 - **CM/CPDLC**
 - **ADS and FIS/ATIS**
 - **Other Bit Oriented Applications TBD**

ATN & VM2 ENDORSEMENT



- **United Airlines strongly supports the migration of Aeronautical Operational Control (AOC) from current ACARS directly to the ATN over VM2/SD3.**
- **This position is supported independently from our endorsement of ATN for Controller Pilot Data Link Communications (CPDLC).**
- **When United Airlines makes an investment decision for company data link operations, our decision will be to invest in ATN and VM2/SD3 avionics - Any interim step, such as ACARS over AVLC (AOA), will only be considered when ATN pricing and/or scheduling information is not available at the time of that decision.**

APPROACH PHILOSOPHY



→ UAL Cross Functional Datalink Team

- Led by Flight Operations (User Requirements)
- Avionics Engineering
- Dispatch and System Operations Control
- Finance Division
- Information Services (IS) Division
- Flight Standards, Procedures and Training

AIRBUS PROGRAM



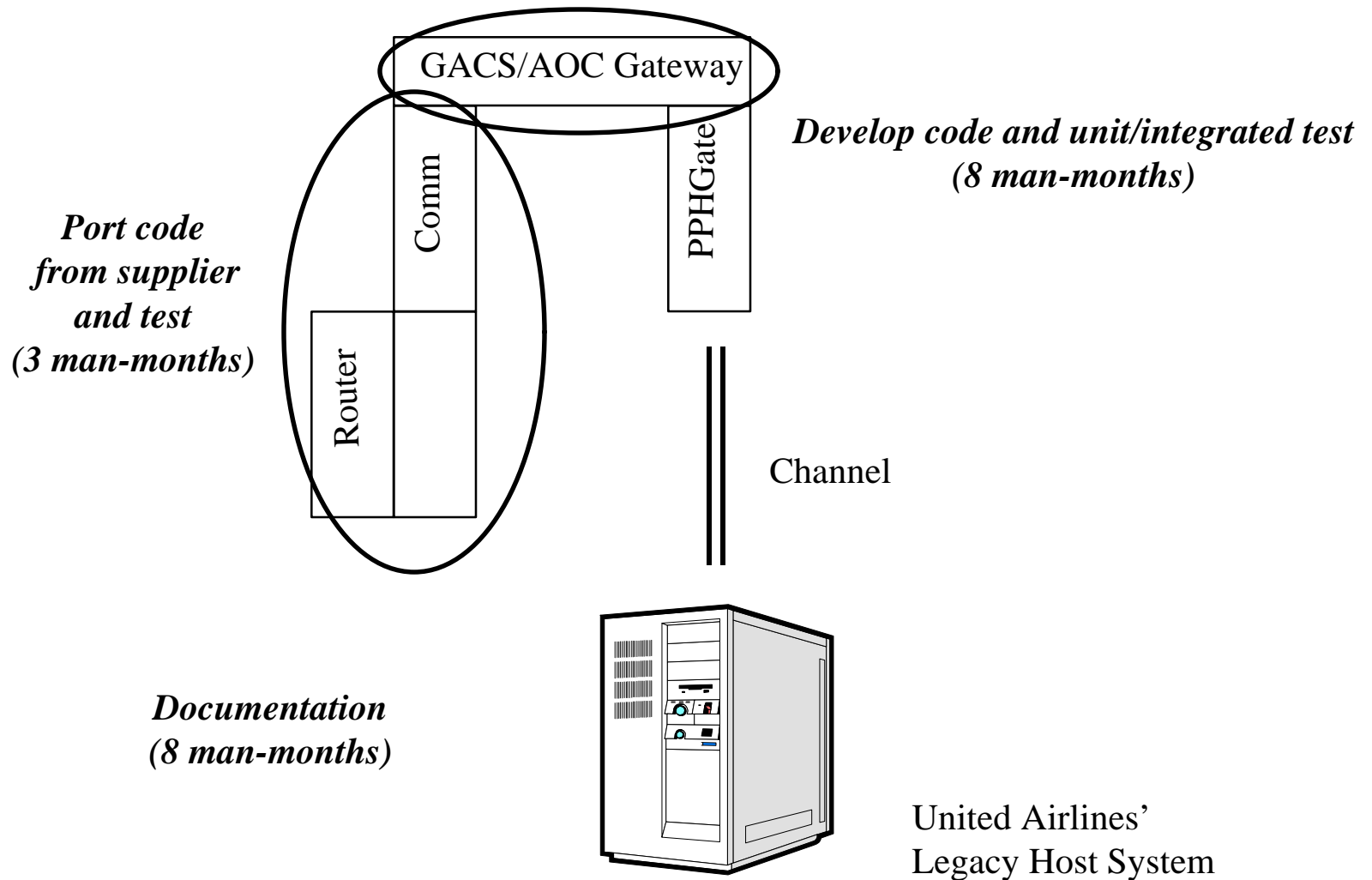
- **Program for 52 New A319 and A320 Aircraft with Deliveries from November 1999 through November 2001**
- **ATSU Starting November 1999**
- **DCDU Upgrade Starting June 2000**
- **VM2/AOA Upgrade Starting June 2001**

FOLLOW ON STEPS



- **Pursue VM2/AOA Option on New 777 Aircraft Deliveries based on Boeing Offer expected September 1999**
 - 13 - B777 New Aircraft Deliveries 2001-2002
- **Implement ATN Router w/Comm Code, and GACS End-System as Gateway to United Airlines Legacy Host Systems**
 - GACS Validation Program
 - Flight Plan Filing and Receipt of NOTAMs
 - Collaborative Decision Making (CDM)

UAL ROUTER/GACS DETAIL



UAL PROGRAM OBJECTIVES



- **Develop Multi-Phased Implementation Program for Full Air & Ground Datalink Capability (i.e., ATN & VM2/SD3 for AOC & ATC) on all Glass Aircraft**
 - Follow Schedule and Justification Guidelines in C/AFT Report (where applicable)
- **Accomplish before Advent of Critical ACARS Saturation, and Major Airport/Hub Congestion Projections**
- **Assure Fair Share Investments by All**



QUESTIONS?