

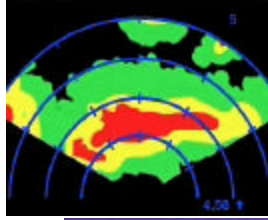


The Movement to Standards Based Solutions

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Rockwell Collins Overview





Rockwell Collins Mission

- **Develop Electronic Solutions For Challenging Environments Where Failure To Perform Involves High Risk**

Coupling The Human To Complex Systems



Rockwell Collins Business Units

AIR TRANSPORT SYSTEMS



GOVERNMENT SYSTEMS



BUSINESS AND REGIONAL SYSTEMS



PASSENGER SYSTEMS





Rockwell Collins Core Products

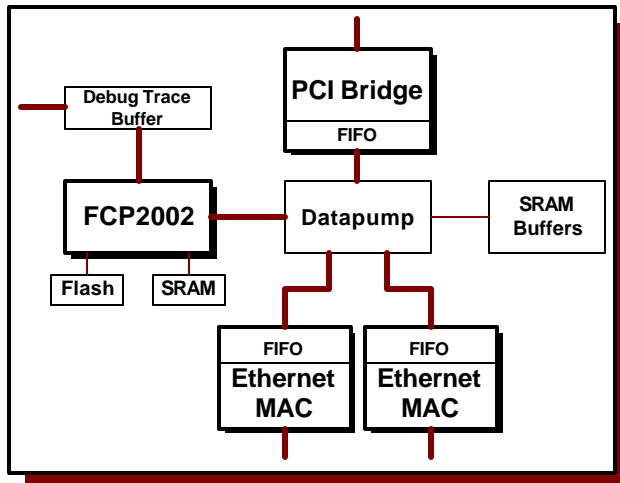
- **Communications Systems**
- **Navigation Systems**
- **Situational Awareness Systems**
- **Display Systems**
- **Automated Flight Control Systems**
- **Integrated Electronic Systems**
- **Aircraft Maintenance Systems**
- **In-Flight Entertainment - Cabin Systems**



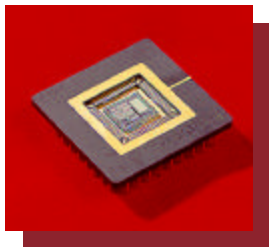
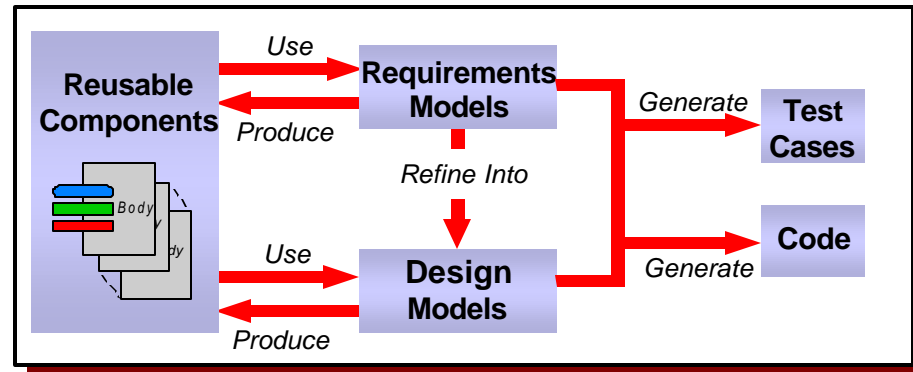


Embedded Computing Technologies

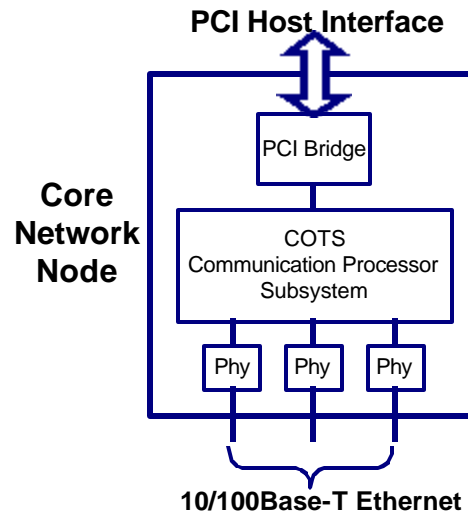
System-on-a-Chip



Model-Based Development



Common Microprocessor Core



Avionics Networks



Autoflight Microprocessor



Rockwell Collins Product Trends

- **Safe, Secure & Highly Reliable Systems**
- **Reduction in Life-Cycle Product Costs**
 - Increased Use of Commercial-off-the-Shelf Technologies
- **Middleware**
 - Isolation of Application from Underlying OS and Network
 - Collins Software Radio



Rockwell Collins Product Trends (contd.)

- **Integrated Systems**
 - More Functionality / Box
 - Functionality that Previously Developed Independently Now Must Share Resources
 - Mixed Levels of Criticality/Security
- **Standards based systems**
 - Collins Software Radio has a Goal of DII COE Compliance



Technology Trends

- **Target Independent Development**
- **Qualified Open Systems**
- **OO/Incremental Certification**
- **Modular Programmable Radio**



Obstacles

- **Certification / Verification**
 - **Safety (DO178B)**
 - **Federal Aviation Administration**
 - **Security (Common Criteria)**
 - **National Security Agency**
- **Tools Support / Integration**
- **An OS Standard Profile(POSIX.13) Geared Toward Avionics**
 - **Software Communications Architecture Application Profile is not POSIX Compliant, but Sits in the Gap Between POSIX 51 & 52**
 - **POSIX PSE 54 like RTOS is Being Examined for Necessary POSIX Functionality for Avionics**
- **Determination of Standards Compliance**