Operating Systems
Spring Semester 2020

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The Space Shuttle Primary Computer System

Article Summary:

This article is about the initial software development and contract of the 1974 Contract between IBM and Macina, which IBM won the bid on for the contract for the ALT (Approach Landing Tests) development of the Operating System which facilitated the key landing systems for the test developments were done mainly with the focus on coding instead of repeatedly passing performance tests because the cost effectiveness to prevent problems was more effective then fixing problems as they arise in the development. The Onboard System of the Computer was a Five computer System called a DPS or Data Processing System. Mission Data was divided in eight Overlays for the missions and other critical code for take off and landing execution is done by synchronized Machines with their own I/O handling. The operating System was written in Assembler with HAL/S in a realtime environment with 35k and 106k 32 but words available for language processing. The overall processing of the application for Macina was to regulate guidance, navigation and also flight control for the modules and on-orbit operation calculations for the missions