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DEPARTMENT OF THE NAVY

NAVY SBIR/STTR SUCCESS

MARITIME, AIRBORNE, SERVICE ORIENTED ARCHITECTURE (SOA) INTEGRATION

The Applications Based Architecture (ABA) software provides the infrastructure that allows adding new capabilities to the aircraft with minimal or no modifications to the mission software

Progeny Systems Corporation
POC: Barry Payne
(240)-237-3696
California, MD 20619
www.progeny.net

THE TECHNOLOGY

The ABA introduces advanced platform integration software to the P-8A. Through the use of Software as a Service (SaaS) concepts, it establishes a highly flexible and dynamic infrastructure that successfully allows disparate systems to effectively communicate and share information in a net-centric environment without modifying those individual systems. Further, the ABA allows for near-real-time deployment of new capabilities, without affecting the existing deployed system. Finally, in addition to the SaaS services, the ABA also deploys an advanced suite of cyber security technologies and makes those technologies available to all sub-systems.

"PROGENY SYSTEMS IS PROUD TO BE PART OF THE P-8A APPLICATIONS BASED ARCHITECTURE PROGRAM; LEVERAGING SBIR DERIVED TECHNOLOGICAL INNOVATION AND SUPPORTING THE DEVELOPMENT AND INTEGRATION OF THESE CAPABILITIES WITHIN THE P-8A. PROGENY'S PROVEN OPEN ARCHITECTURE TENETS ALLOW THE P-8A TO KEEP PACE WITH TECHNOLOGY AND THREATS, SUPPORTING INTEGRATION OF SENSORS, ELECTRONICS, AND SYSTEM COMPONENTS AS WELL AS DEVELOPING A RAPID COMMERCIAL-OFF-THE-SHELF TECHNOLOGY INSERTION CAPABILITY. SUCH A STRATEGY WAS A HUGE SUCCESS IN THE SUBMARINE ENVIRONMENT - IT CAN LIKEWISE HAVE A TREMENDOUS IMPACT IN NAVAL AVIATION."

Pat Brady
Chief Executive Officer
Progeny Systems Corporation

"PROGENY SYSTEMS CORPORATION HAS CONTINUED TO PROVIDE OUTSTANDING SOFTWARE AND SYSTEMS ENGINEERING TO THE NAVAIR PMA-290 PROGRAM OFFICE. SPECIFICALLY, THE P-8A INCREMENT 3 PROGRAM HAS BENEFITTED GREATLY FROM THE TECHNOLOGY DEVELOPED BY PROGENY ALLOWING QUICK INSERTION OF NEW CAPABILITIES FROM A VARIETY OF VENDORS."

LCDR Jeffery Riggs
Systems Integration & Software IPT Lead
AIR 4.5.1.3/PMA-290

THE CHALLENGE

Missions flown by Maritime Patrol and Reconnaissance Aircraft (MPRA) require access to and the ability to share near-real-time mission critical intelligence to the warfighter. MPRA platforms are required to quickly adapt to changing information types, sources, and distribution paths in order to provide the warfighter with the required situational awareness necessary to complete the mission quickly and effectively. Legacy MPRA platforms depend on difficult and time consuming offline processing to make the intelligence available to downstream consumers. These issues, coupled with a timeline for new applications measured in months and years make it exceedingly difficult for MPRA platforms to keep up with the changing battlespace.

THE TRANSITION

The ABA has already demonstrated success in the lab environment integrating several aircraft subsystems. The ABA is beginning the transition process and entering into a series of formal integration and test events as part of P-8A Increment 3 Combat System integration. PMA 290 will field the ABA as part of the P-8A Increment 3 Block 2 (ECP 6) modification to delivered aircraft.

THE NAVAL BENEFIT

To meet today's data exchange requirements and to be capable of quickly adapting to tomorrow's, all while remaining budget-conscious, the MPRA systems must adapt their legacy mission systems architectures to provide real time access to the airborne system and sensor capabilities and data. The ABA allows PMA-290 to rapidly deploy technologies developed by other government programs, general commercial vendors, or dedicated 3rd parties without having to customize the capability for use in the P-8A aircraft. This reduces the overall life-cycle cost and quickens the pace of technology insertion from years to months for the P-8A aircraft.

THE FUTURE

PMA-290 is already leveraging the ABA to modernize the aircraft media generation process within the Poseidon ground system, called "TacMobile." It is anticipated that the future will bring numerous new ABA applications to TacMobile.