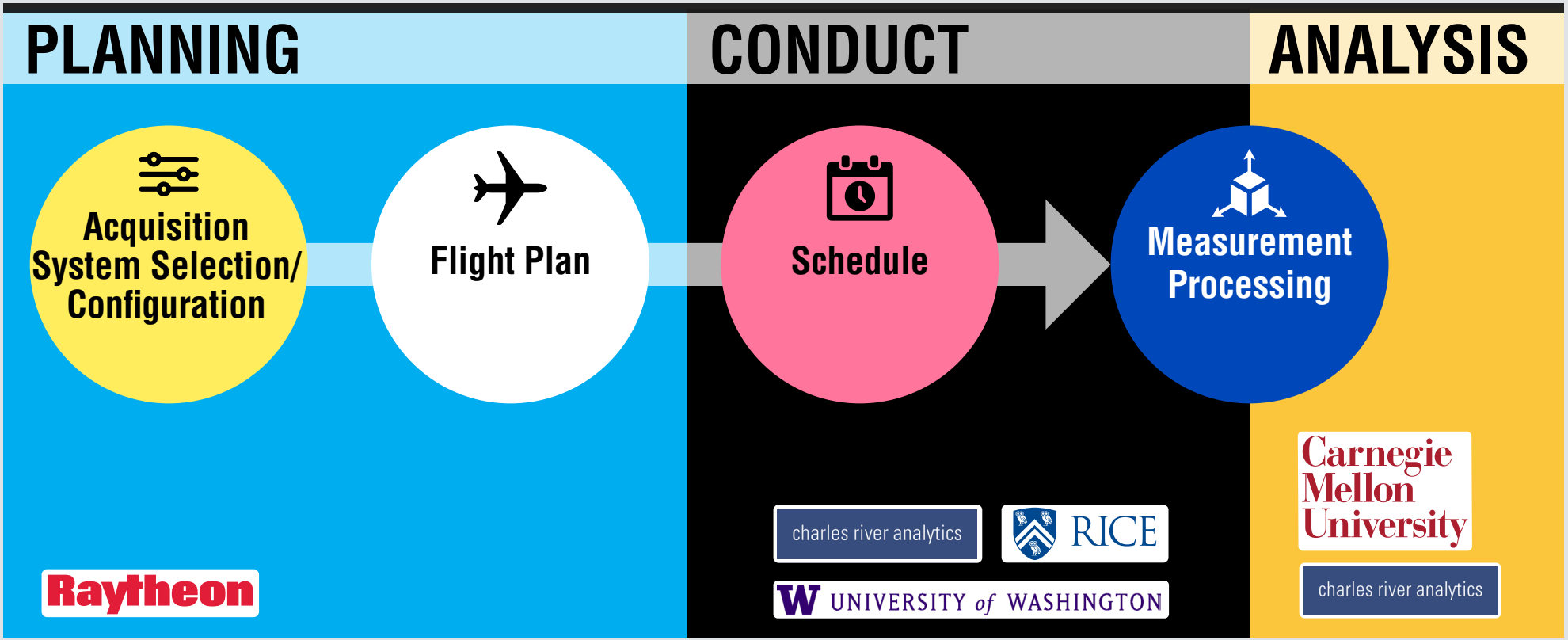

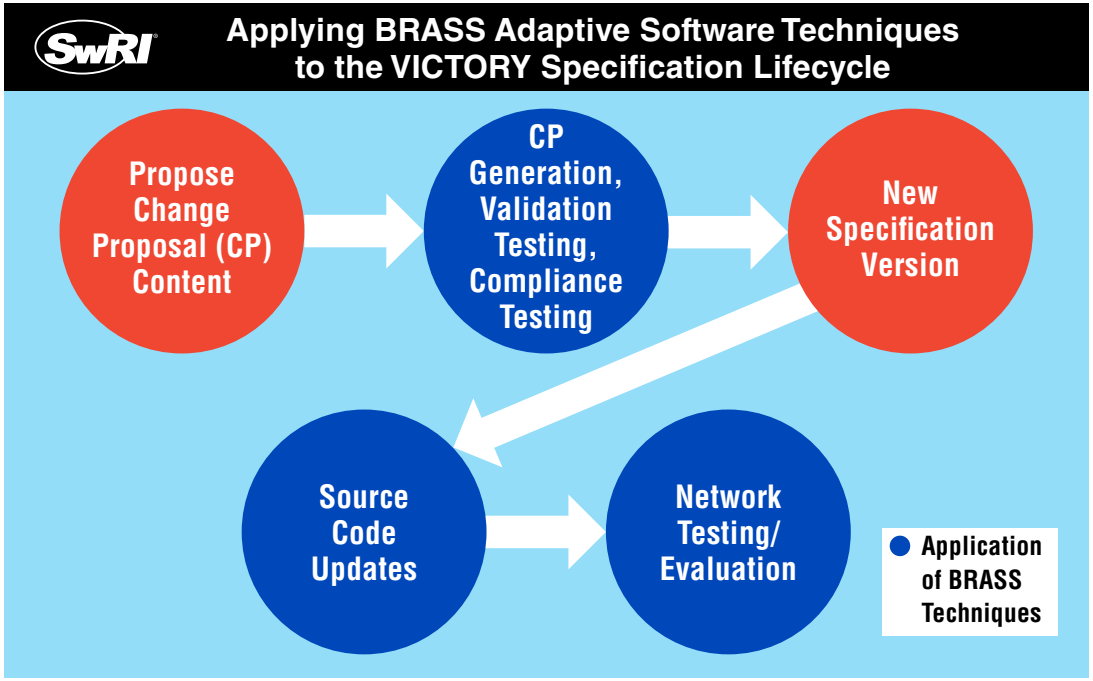

DARPA DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

SwRI SOUTHWEST RESEARCH INSTITUTE®

Building Resource Adaptive Software Systems (BRASS): *Phase III Demonstration Workshop*

When: November 5-6, 2019

Where: Southwest Research Institute, San Antonio, TX

Cost: Free

For registration questions: Tina.Neff.ctr@darpa.mil

Teams pursuing Flight Test problems listed below

Carnegie Mellon University

Carnegie Mellon University (SPIRAL) – Automatic Program Generation of High-Performance Measurement Processing from Metadata Description Language (MDL). This provides high-performance platform-turned implementations of complex numerical methods starting from a flight test domain description of the algorithms. PI: Franz Franchetti

charles river analytics

Charles River Analytics (PRINCESS) – Static Spectrum Sharing/Scheduling: This provides approximately optimal and time-critical solutions to TDMA transmission schedules using integer programming. Measurement Fault Detection: This provides detection and recovery from acquisition system faults in a flight test telemetry system. PI: Avi Pfeffer

Raytheon

Raytheon BBN (IMMoRTALS) – MDL flight test plan adaptation in response to faulty DAUs; Java bytecode repair in response to MDL schema evolution. Flight test plan adaptation leverages variational analysis along with a parts inventory to generate a new flight-test plan with the faulty component replaced and the new component appropriately configured. Bytecode repair leverages automated schema mapping and XSLT generation, data and control flow analysis and byte code instrumentation to adapt an application to work correctly under the new schema. PI: Peter Samouelian

RICE

Rice (Proteus) – Dynamic Spectrum Sharing/Scheduling through Machine Learning, and Feedback Control-inspired novel Runtime. This provides runtime adaptation to schedule perturbations and bandwidth demands while optimizing system value based on dynamic reallocation. PI: Krishna Palem

UNIVERSITY of WASHINGTON

University of Washington (SandCat) – Static Spectrum Sharing/Scheduling including support for relay topologies. This uses constraint satisfaction technology to calculate valid TDMA schedules after external perturbations, including the maintenance of links over RF relays. PI: Rastislav Bodik