NordiaSoft

An Innovator for Software Defined Systems

Advanced Tools for SCA Development
SCA as infrastructure code: A seamless migration from SCAv2.2.2 to SCAv4.1
Outline

Development of an Application Component

Host Colocation for Device and Application Components

WInnF SCA Transceiver v2.0 Implementation
A DPSK Modulation Application

Plotting the output of an Application Component
Creating an AWGN Application Component

All SCA code automatically generated from a graphical model
Business Logic in an External Class

Instructing code generator to use an external class where the data processing business logic is implemented.
Using a Passthrough Component

Newly created component acts as a passthrough component without having to add source code.
Zero – Merge Code Generation

Adding new artifacts and functionality to a component without losing previously implemented source code.
Class Specialization

Specializing only selected artifacts
Adding Business Logic

Adding calls to non-sca external implementations

Generated code

New added calls
Execution with Fixed Signal to Noise Ratio

Output signal with AWGN
A Signal to Noise Ratio Property

New property that can be added to multiple SCA Components
Zero – Merge Code Generation

SCA Property added to a Component
Proxy Properties in Assembly Controller

SCA Property added in the Assembly Controller as a Proxy Property to the AWGN Component
Execution with Configurable Signal to Noise Ratio

New execution with configurable Signal to Noise Ratio
Outline

Development of an Application Component

Host Colocation for Device and Application Components

WIInnF SCA Transceiver v2.0 Implementation
No deployment options applied
Deployment using Core Allocation

New SCAv4.1 Feature: Core Allocation
Deployment using Core Allocation

Decrease in component communication latency by deploying two communicating components in the same processor core.
Decrease in component communication latency by deploying two communicating components using a Component Factory

November 2018

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Deployment using Process Collocation

New SCAv4.1 Feature: Process Collocation. Deploying an Application Component in the same address space as a Device Component
Outline

Development of an Application Component
Host Colocation for Device and Application Components
WInnF SCA Transceiver v2.0 Implementation
First Implementation of WInnF Transceiver v2.0

New WInnF Transceiver v2.0 Device Implementation

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A Component Adapter to/from WInnF Transceiver

FM Waveform using an adapter to/from the WInnF Transceiver Device