# Simulation and Testing of Power System Protection using PSCAD® and RTDS®
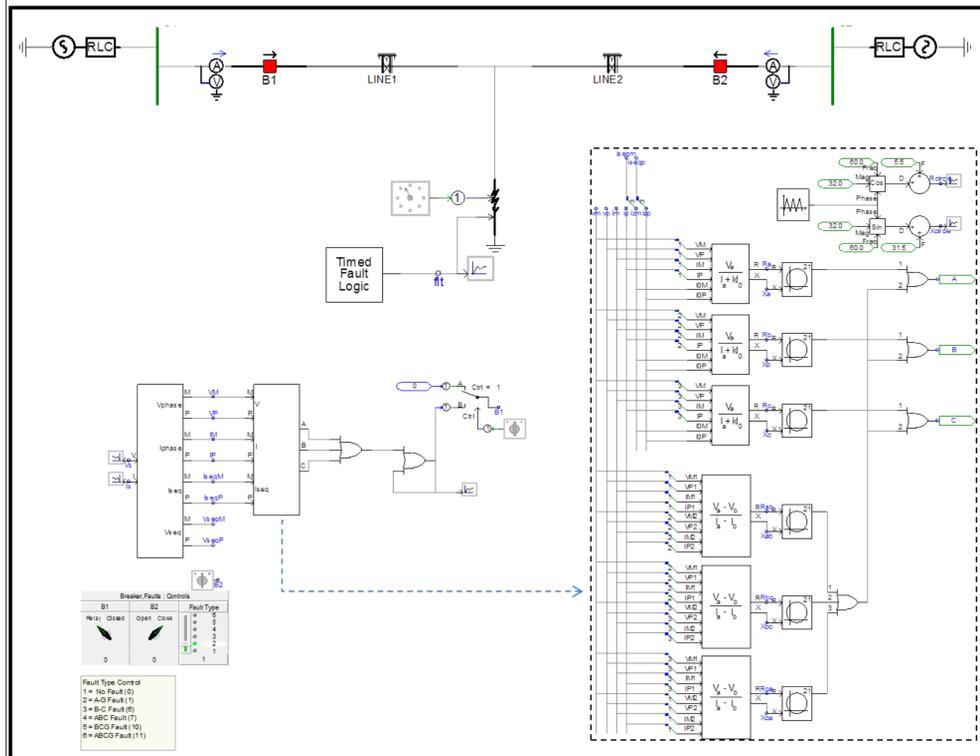
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## Offline Simulation and Testing

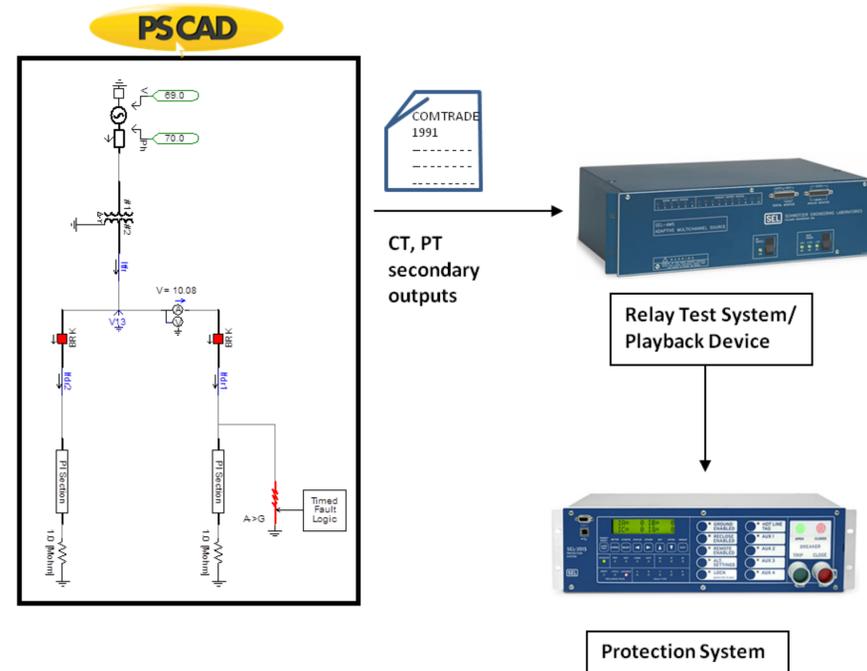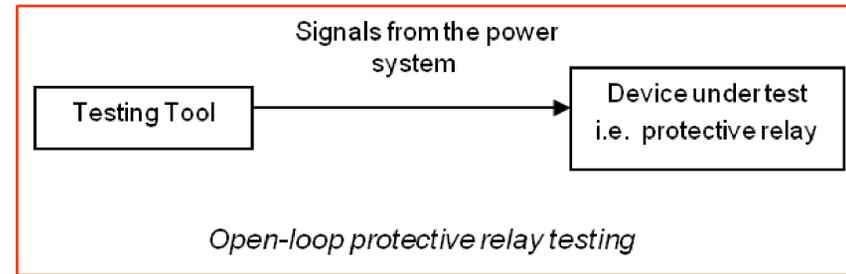. Both power system and protection are modeled in PSCAD

**PSCAD** Simple Distance Protection Scheme



### Advantages

. Test settings determined by load flow analysis for transients
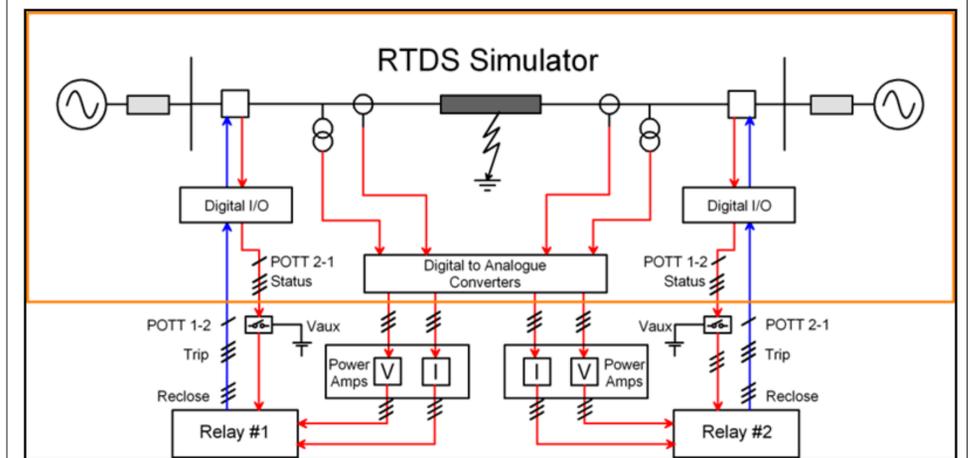. Cost effective
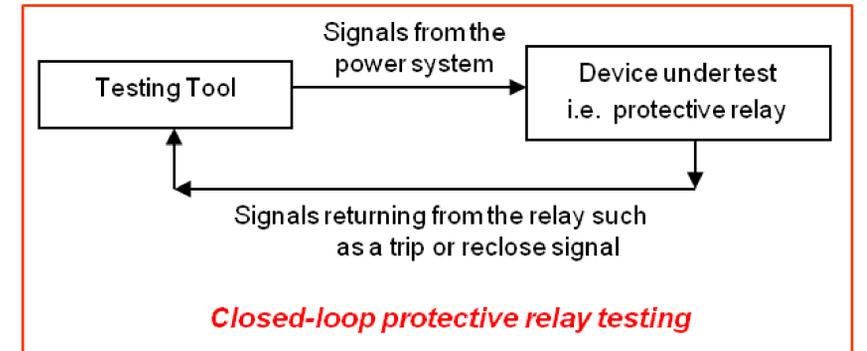
## Open Loop Testing



*Open-loop protective relay testing*



### Advantages

. Test relay settings in actual relay
. Uses recorded or simulated power system signals
. Test One relay at a time

## Closed Loop Testing using RTDS®



*Closed-loop protective relay testing*



### Advantages

. Complete interaction between relays and the simulated power system
. Test multiple devices (relays and/or controllers)
. Relay coordination
. Numerous scenarios/settings in practical time