ISD advantages

	ISD	Others
Accuracy	Accurate and causal DUT results. Easier to correlate with simulation, improving design and time to market.	Artificial ripples in S-param; non-physical TDR/TDT before and after DUT. Difficult to correlate with simulation, resulting in long design cycle.
Cost saving	Saves hardware cost - works for inexpensive test fixtures with large impedance variation	Requires expensive test fixtures to tighten impedance variation.
	Precise qualification in meeting compliance spec. Avoid components from being thrown away by mistake.	Good components may fail comliance spec because of de-embedding error and get thrown away by mistake.
Technology	Uses impedance corrected 2x thru and 1x open/short techniques to de-embed actual test fixture instead of calibration structure.	Uses 2x thru and 1x open/short of calibration structure directly to de-embed test fixture, resulting in causality error.
Capabilities	Extracts small DUT from a large board	Error is too large if DUT is much smaller than test fixture.
	De-embeds asymmetric structures	Claims to be able to de-embed asymmetric structures but assumes IL to be identical on both left and right sides of test fixture.
	Supports unlimited number of ports for 2x thru, 1x open/short and Fixture+DUT	Only up to 4 ports.
	Creates 1x thru from 2x thru or 1x open/short in one click	not available.
	Able to de-embed odd number of ports. Essential for RF or MEM devices.	not available.
	Able to de-embed n ports from m-port structures (n<=m and n, m are arbitrary). Essential for RF or MEM devices.	not available.
	Able to de-embed longer or shorter than existing reference coupons	not available.

	Automatic skew calculation and de-skewing	not available.
	Creates effective 2x thru from 1x open + 1x short (- AtaiTec's patent)	not available.
Additional features	Supports wildcard character (*) to de-embed multiple files in one setup	not available.
	Runs in batch to stack up multiple jobs	not available.
	Built-in Delta-L calculation	Maybe available through other programs.
	One click compares ISD and Delta-L results	not applicable.
	Outputs optimized reference impedance for trace-only data	not available.
	Built-in TDR and other SI functions including reciprocity, passivity and causality correction	Maybe available through other programs.
Other	Application - Accurate de-embedding results lead to correct DK, DF and roughness for PCB material property extraction	Unusable RL and artificial ripples/spikes in IL lead to dubious DK, DF and roughness extraction results.
	Exceeds toughest (Class C) IEEE P370 requirements.	May meet relaxed (Class A) IEEE P370 requirements.