InterLink Systems, Inc.

5116 Bissonnet #341, Bellaire, TX 77401
Tel: (281) 356-7567 Fax: (713) 663-6361
jamesmcadams@alumni.rice.edu

Control Simulator Software Comparison
CS4 (DOS) vs. CSI (Windows)

Both CSI and CS4 are software applications designed to simulate transient flow in subsea production and drilling control systems. CS4 is an old DOS application that has been in use since the early 80's. CSI is a Windows application with greatly expanded user interface capabilities and more modern models. Both are currently in use and available for licensing. To aid selecting the right version, this table compares some of the main points where the applications differ. Note that the DOS application (CS4) comes bundled with CSI. Example problems done with both applications are included as a convenience for current users of CS4.

Feature	CS4 (DOS)	CSI (Windows)
Operating System	DOS Win 3.1 95 98 ME NT 2000 XP (*NOTE: output directly to a printer may not function on networks. Output to a file is OK*)	Windows 32-bit operating systems only: 95 98 ME NT 2000 XP
Operator Interface	Keyboard operated menus	Windows graphical interface for mouse and keyboard
Component libraries – Build descriptions of components once for ease of use later.	Hoses only	All components
Restrictions	Modeled as a single orifice with a specific Cv	Modeled as an orifice with a specific Cv in series with a length of tubing. Restrictions may be placed in series.
Accumulators	Modeled with the Redlich-Kwong equation of state and a simple first order heat exchange.	Modeled using the NIST equation of state and a more accurate heat exchange relation.
Future viability	Legacy – No future development. Depends on Microsoft's support for DOS applications	Ongoing development
Valve Operator	No rod on the opening side piston	Includes both a rod and a stem.
Graphic plots of output	None	Supports 2-D plot of any output parameter. You can copy and paste to word or other applications.
Units of measure	Mixed English/Metric	Mixed English/Metric with pull-down lists
Export to other applications	None	Send text output to Notepad, Word, or Excel.
Data files	One file for each simulation case. Data changes have to be entered independently for each case that the change applies to.	All simulation cases for a project are in one file. Changes to component parameters are done once and apply to all cases.
Building new cases	A change in topology requires starting from scratch.	Cut/paste drag/drop can be used to edit the topology starting with an existing case.