

Applications

**Robotics, Measurement,
Control**

AdeptRapid™

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AdeptRapid™ is a low-cost software package to aid in the design and programming of automation systems employing Adept robots, vision systems and other peripherals. Using AdeptRAPID, product designers can quickly and easily visualize and evaluate automation concepts to determine the cost, feasibility and performance of a proposed robotic system, long before the equipment is purchased or a part prototype is available.

IRIX version compatibility:

CIMBuilder™

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CIMBuilder™ is a standards-based rapid application development environment that can dramatically reduce the time it takes to build workcells.

- Easy to use programming interface: Point and click, GUI based, object-oriented
- Three developers languages: C/C++, Tcl (tool command language), NPL (non-programmer language)
- Use interpreter or compiler: interpretative for quick turn around time, compile for speed
- Open software architecture: enables third-party suppliers to create specialized modules; machine vision; motion control; I/O control, etc.

IRIX version compatibility:

CIMCal™

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CIMCal™ is a calibration software for CODE. CIMCal compensates for differences between the shared workcell database information and physical inaccuracies of the mechanism and parts.

Specific compensations: rigid body (part location) corrections, tool and camera calibrations, and mechanism accuracy enhancements.

IRIX version compatibility:

CIMControl™

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CIMControl™ is a realtime, deterministic software for controlling the runtime operation of a workcell. CIMControl operates on a VME, ISA or PCI platform with a realtime Unix® (LynxOS®) or Windows NT® operating system.

Output is directed to a motion card driver. Supports accurate and predictable motion control of coordinated axes motion. Complete support for feature-rich CODE API library. CODE API motion control functions include: Move to target definitions; joint angle, Cartesian, arc motion, path motion, etc.; Interpolation types: joint interpolated, linear interpolated, etc.; Tool motion type; Motion speed; Acceleration/deceleration; Trapezoidal, S-curve, etc.; Motion blending; Trajectory mode; Start/stop signals.

IRIX version compatibility:

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CIMTools™

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CIMTools™ is a collection of GUI-based tools that provide access to the shared workcell database for both simulation and control.

- Supervisory control of applications: launch, halt, pause, step, continue
- Workcell database control: browser/navigator, inspector/editor
- Software teach pendant
- View control panel: zoom, rotate, 3-D solid/wire frame models
- Motion monitor: joint limits, tool speeds, etc.
- Collision and minimum distance-checking
- Software and I/O signal monitor

IRIX version compatibility:

CIMTune™

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CIMTune™ is a mechanism set-up and tuning software featuring a GUI for set-up, testing and tuning a control system. Features include: Graphical user interface; Builds a default servo model; Manual and auto-tuning; Capture/plot performance; Setup/test of safety limits; Define and test homing; Test I/O; Set card parameters (e.g. servo rates).

IRIX version compatibility:

CIMVision™

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The CIMVision™ option offers machine vision extensions for CODE. CIMVision is available at both the CODE API level and through CIMBuilder™.

IRIX version compatibility:

CIMulation™

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CIMulation™ is a graphical workcell simulation environment that lets you design, test and debug your applications. CIMulation enables engineers (totally independent of the physical workcell) to:

- Assemble virtual workcells using a library of popular robots
- Design/verify custom mechanisms
- Define a full 3-D solid or wire frame graphical model
- Perform accurate cycle-time predictions
- Validate error handling
- Detect collisions or near misses
- Model I/O devices

IRIX version compatibility:

Robotics, Measurement, Control

CODE API

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CODE:

Application programs are written using calls to the CODE API.

- Multi-platform: UNIXÆ (SGI, IBM, HP, SUN), LynxOS® and Windows NT®
- Extensible: add your own custom or 3rd party libraries
- Open: add your own custom forward and inverse kinematics solutions, trajectory generation algorithms, custom interpolation types, etc.

The CODE API (Application Programming Interface), a standard C/C++ library of over 400 function calls for: Mechanism Control, I/O and Process Control, Trajectory Planning, Geometric Modeling, Graphical View Control, ODE dB Manipulation, and Collision and Minimum Distance Checking.

IRIX version compatibility:

CimStation Robotics™

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CimStation Robotics™ software addresses the difficulties involved in implementing robots to automate a manufacturing process. CimStation Robotics enables manufacturers to quickly and easily design, simulate, and off-line program robotic workcells, resulting in reduced time to market, lower production costs, and a superior end product.

CimStation Robotics enables the manufacturing engineer to:

- Quickly simulate and evaluate alternative methods for automating a manufacturing process to choose the best possible solution.
- Use existing in-house CAD data and SILMA's library of commercial robots and accessories to create a detailed simulation of the proposed manufacturing system.
- Reduce start-up time by accurately simulating the interaction between workcell components to determine feasibility and optimize equipment selection, fine-tune equipment positioning, and maximize production throughput.
- Create and optimize equipment programs off-line, eliminating the risk of damage to equipment and freeing robots for round-the-clock production.

CimStation Robotics allows engineers to visualize and evaluate automation concepts to determine the cost, feasibility and performance of a proposed robotic system, long before the equipment is purchased or a part prototype is available.

IRIX version compatibility: