DEDICATED SYSTEMS DEVELOPMENT TOOLS

Mission Statement

Intrinsyc **will provide enabling software technology for the rapid development and deployment of dedicated and embedded systems based on Win32.**

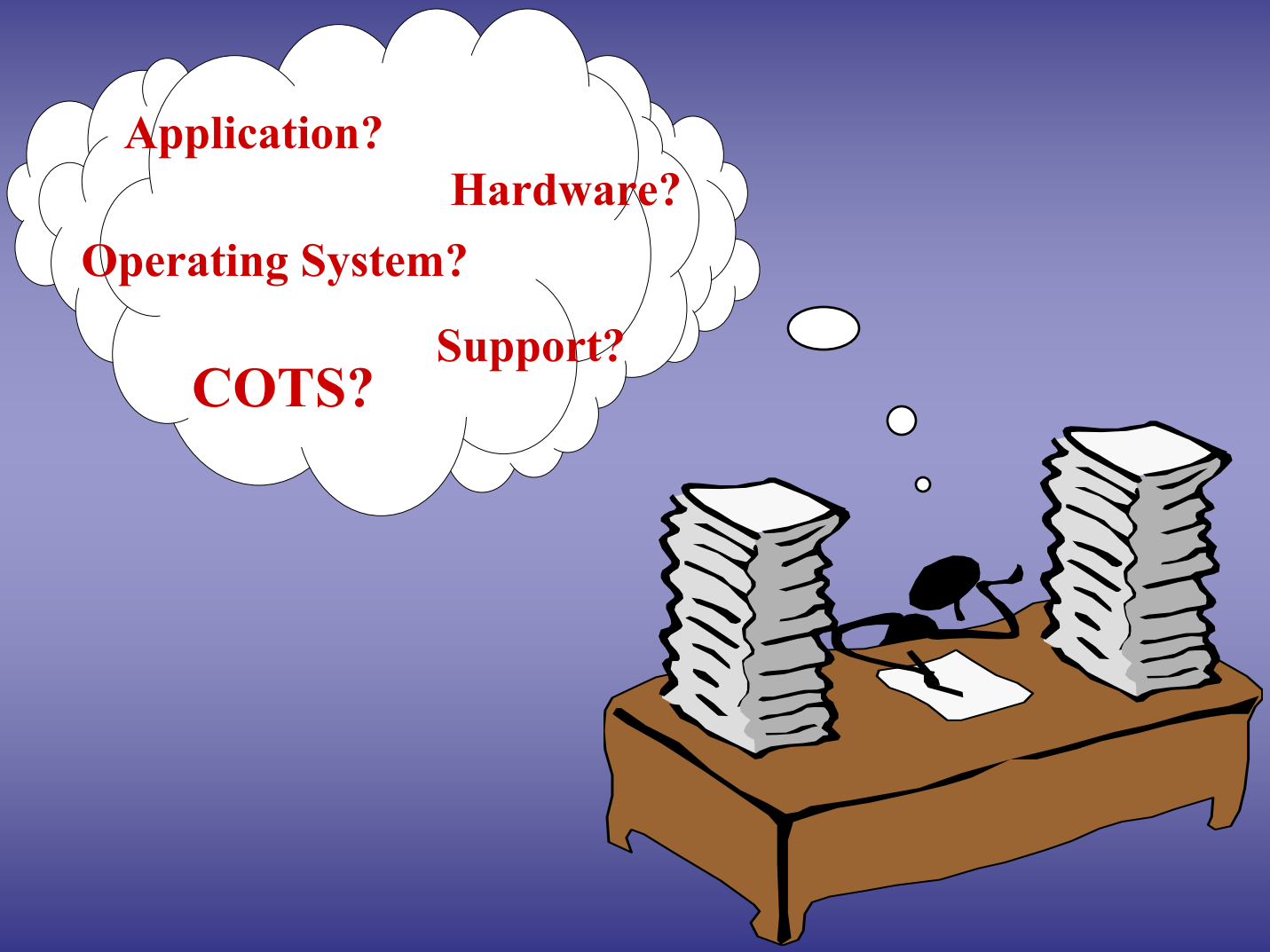
Who is INTRINSYC?

- Founded in 1992
- Historically Focused on SCADA Applications
  - Test and Measurement
  - Process Control
  - Factory Automation
- Software Technology Company
  - Dedicated/Embedded System Development Tools
  - Intuitive Visual Environment
  - Industry Standard Platforms (NT/CE/Java/etc.)
  - Deterministic Real-Time Applications
  - Internet Enabling
  - Software Fault Tolerance
- VSE Listed (V.ICS)

Customer Base & Application

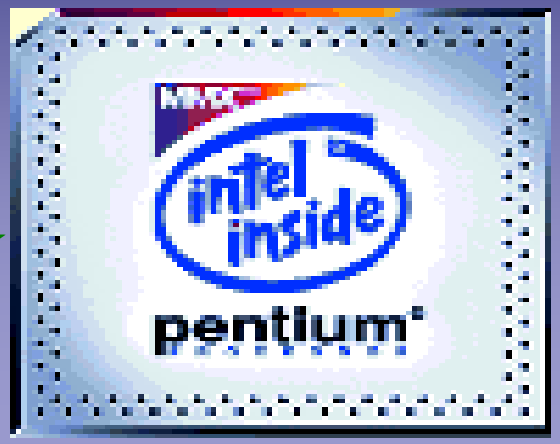
BP Energy	Real-Time Power Station Metering & Logging
British Aerospace Airbus	Analysis of Laser-Bored Wing Surfaces
Building Research	QC Walling Construction
Defense Research Agency	Defense Applications
Leicester University	Analysis of Neuron Firing Response
Malaysian Rubber	Test &Quality Control
Pedigree Petfoods	Animal Nutrition
Royal Mail	Vibration Analysis on Sorting Machines
Select Active	Oil Drilling Platform Pressure & Temperature Analysis
Viami Control	Monitor & Control of Environmental Chambers
X-Cam	QC & Final Test of High Performance Motor Car Engines

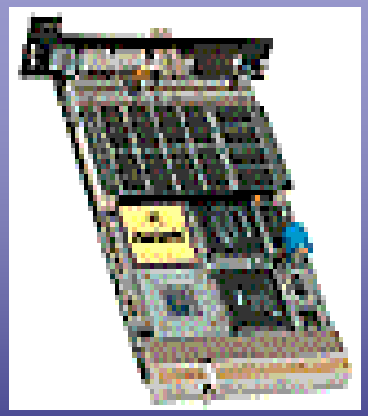
Yesterdays Embedded Systems Design



Must have “Core Competence” in all areas

Market Reset by Industry Standards

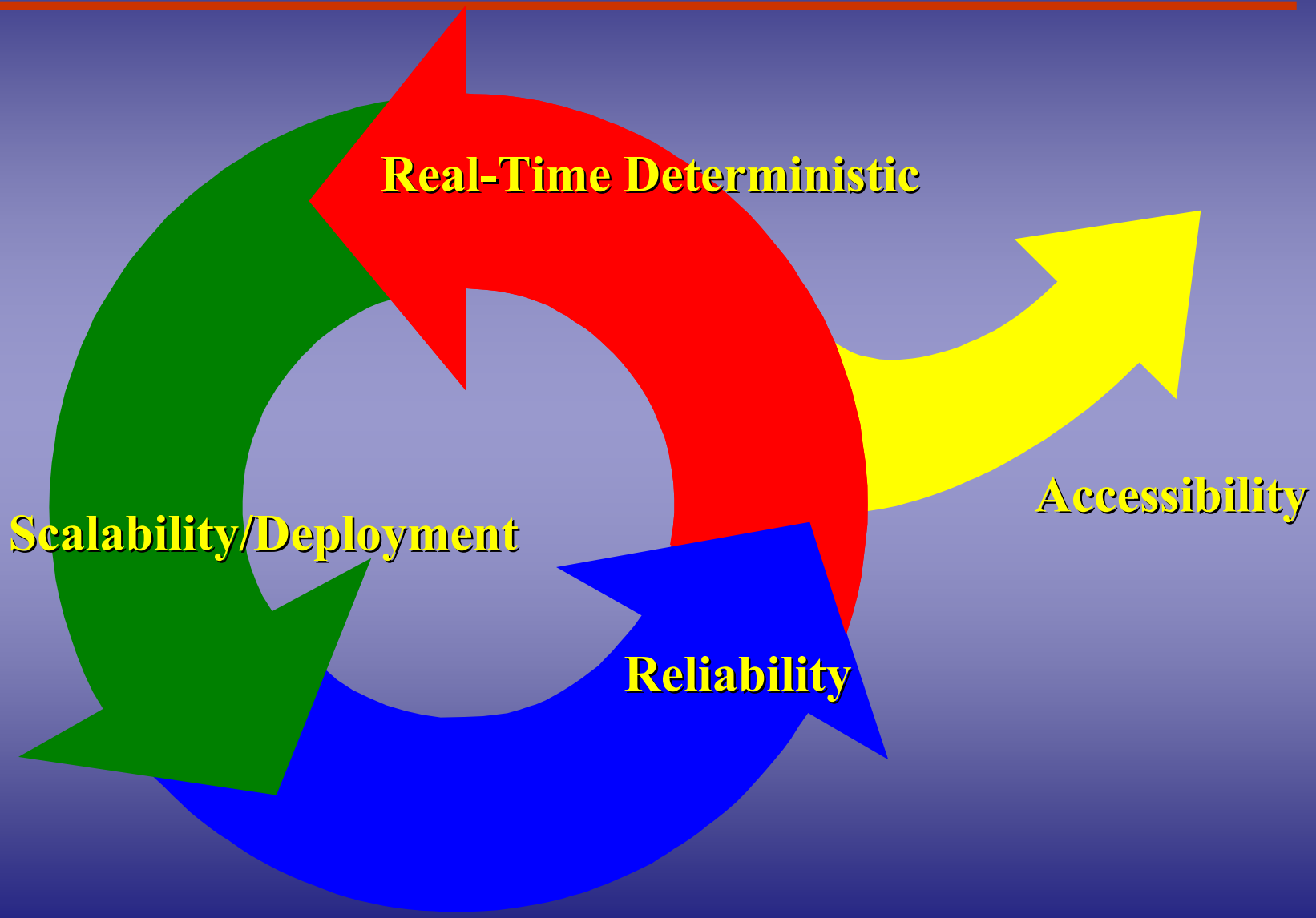




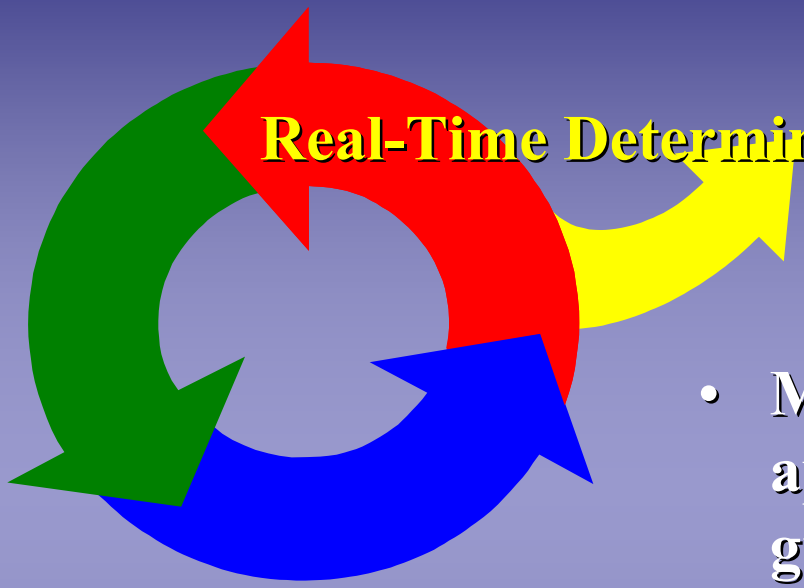
Embedded

"Wintel"

Imperatives for Embedded Wintel



Guaranteed System Response

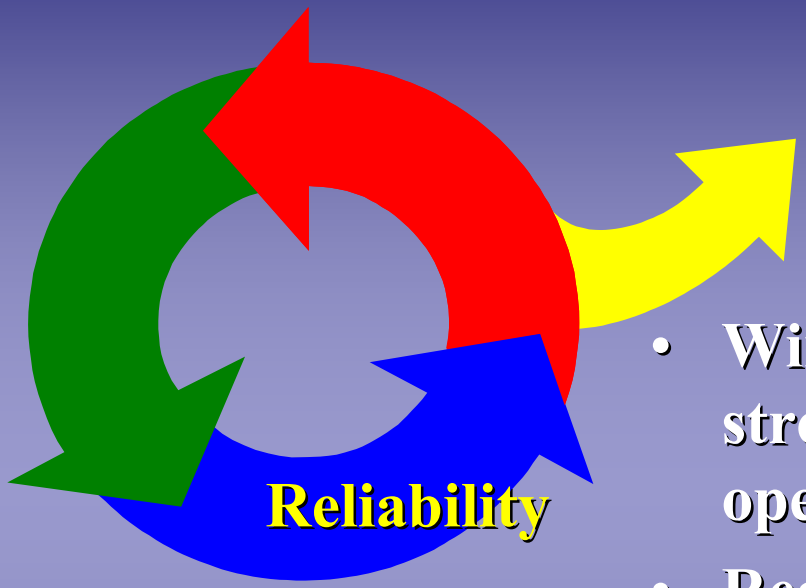


- Mission or business critical applications require guaranteed and predictable system response.
- Current systems employ specialized or proprietary RTOS's
- General purpose OS's require Real-Time extensions

Manage Design Complexity

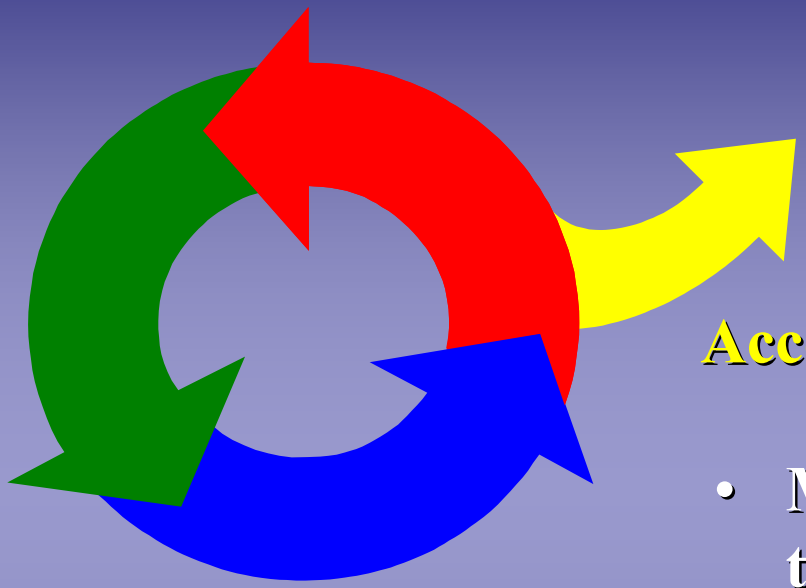
- Embedded applications require modular or component-based development
- Efficient use of system resources
- Require tools to manage and encapsulate complexity of platform and applications

Predictable System Operation



- Windows NT/CE provides strong base for reliable operation
- Real-time control MUST be protected from non-real-time elements
- Improve reliability by applying fault-tolerant techniques to Win32-based applications

Access to Information is Knowledge and Power



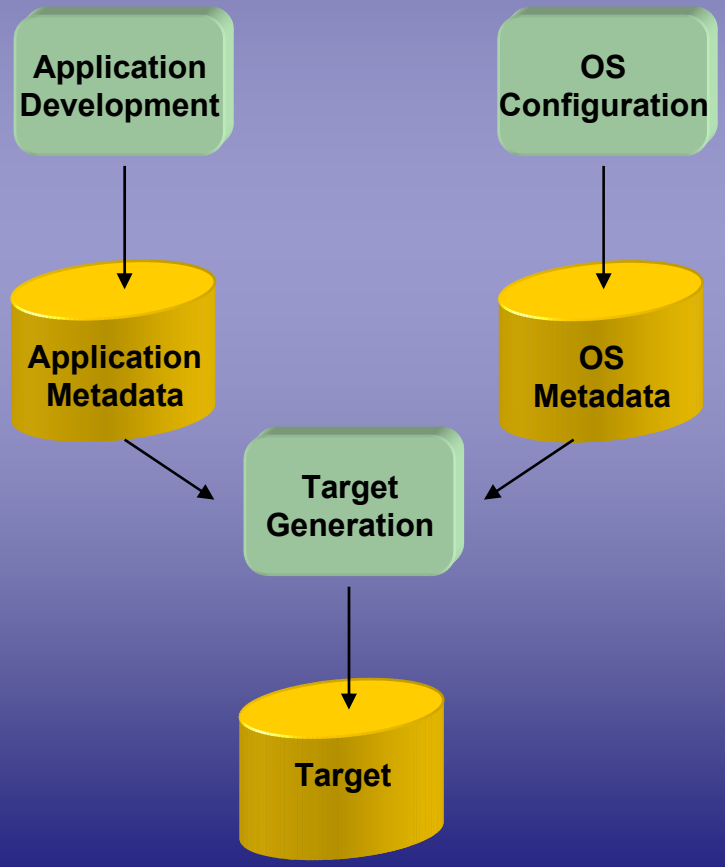
Accessibility

- Microsoft is targeting CE toward embedded market
- Application development and monitoring on NT, field devices running CE
- Simplify communication through industry accepted environment

Intrinsyc Integration Expert (IX)

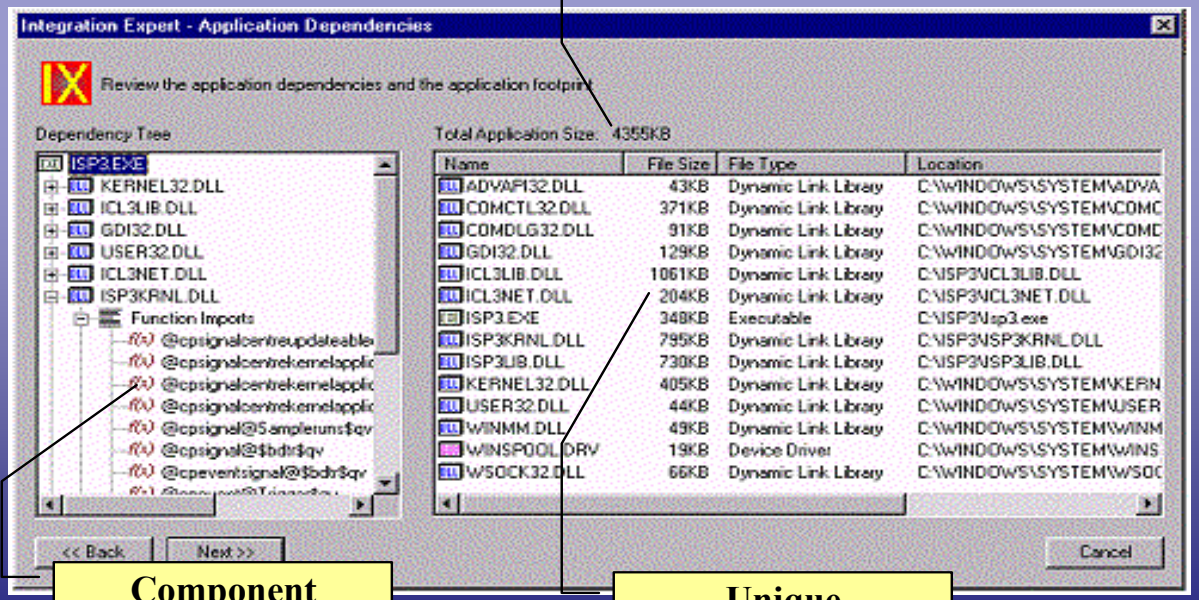
Integration Expert provides component software analysis, integration and deployment of application and OS for any Windows-32 bit platform

- OS and application independent
- Automates key development steps
- Reduced development time
- Maximize reliability
- Reduce platform knowledge requirements
- Minimize target size



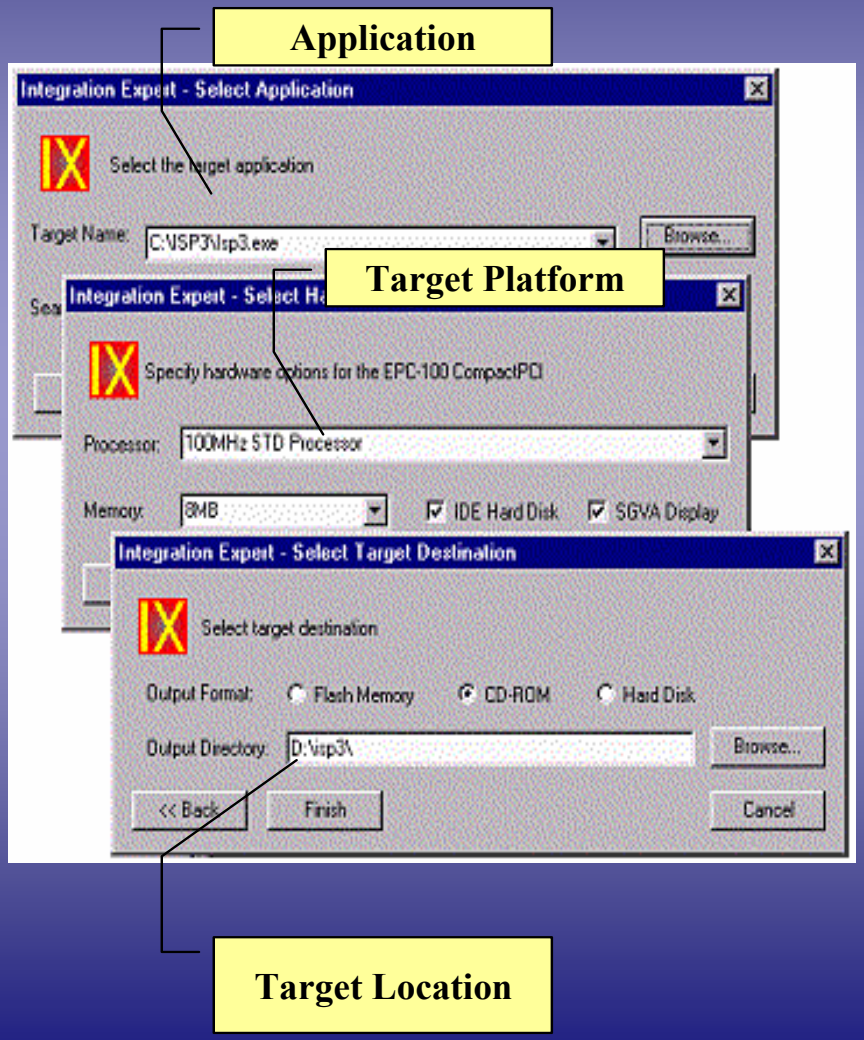
IX Automates Key Design Steps

- Automatic Dependency Analysis
  - OS and Application independence
  - Static and dynamic relationships between the Application and OS layers
  - Visual display and management of all software components
- Profiling
  - Calculate total target footprint and memory requirements
  - Optimize code efficiency



IX Automates Key Design Steps

- Configuration
  - Information Model represents OS and hardware
  - Supports OEM Reference Platforms
  - Support for generic hardware template
  - Integrate 3rd party OEM Adaptation Kits (OAKs)
- Target Generation
  - Deployment of all software components to the target platform
  - User selectable target location

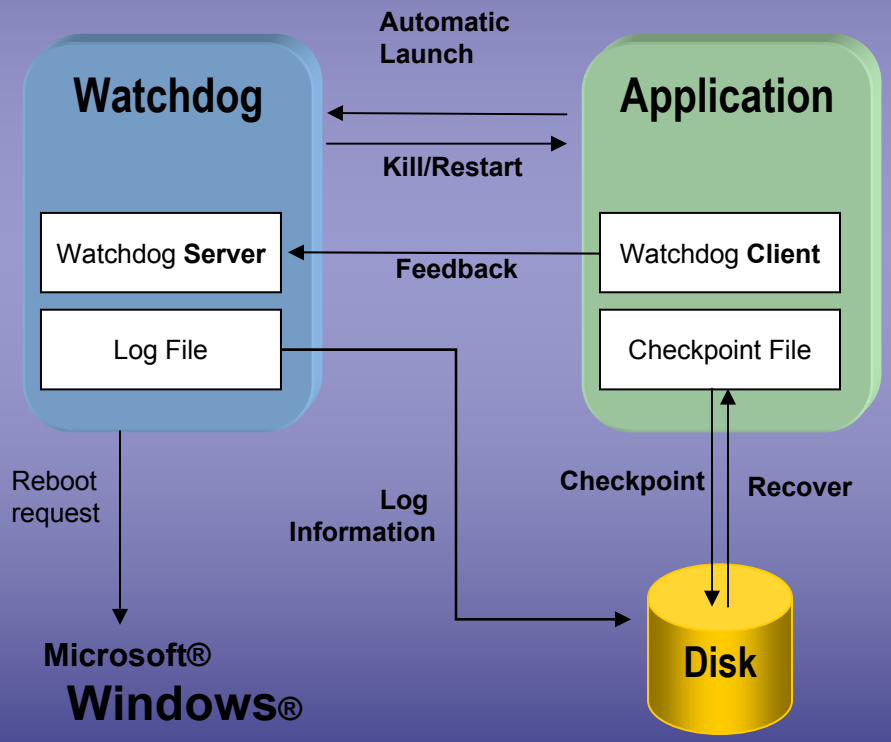


Intrinsyc WinFT - Software Fault Tolerance

WinFT

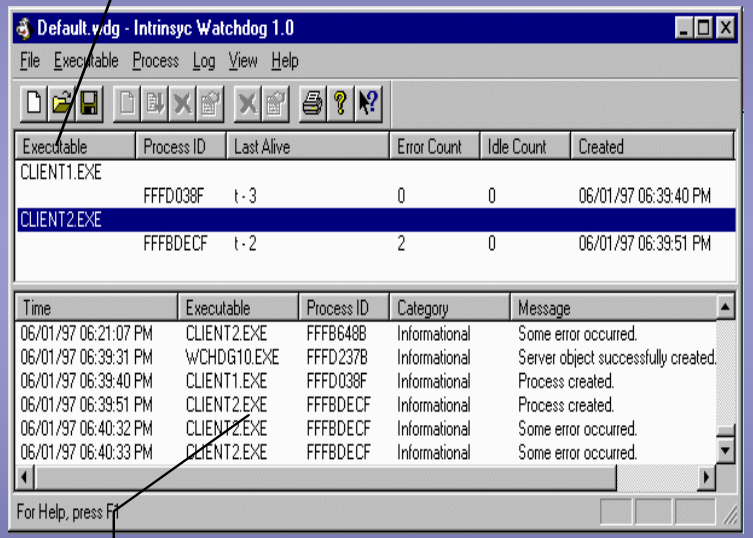
WinFT provide software-based fault detection and correction for Windows 32-bit applications

- Application software fault detection and correction
- Cost effective alternative
- Simple API enables developer to easily "instrument" applications
- Predictable recovery response to detected faults



WinFT Improves Application Reliability

- Watchdog Services
  - Detection/Restart of crashed/hung processes
  - Detection of OS/hardware failures
  - Configure how individual application faults are handled
  - Configure how repeated faults are handled
  - View associated processes
  - View historical data about executables and processes
- Checkpointing
  - Persistence of critical application data
- Logging
  - Monitor the historical performance of applications
- Exception Handling
  - Log detailed exception information to facilitate application debugging



Intrinsyc Rainbow

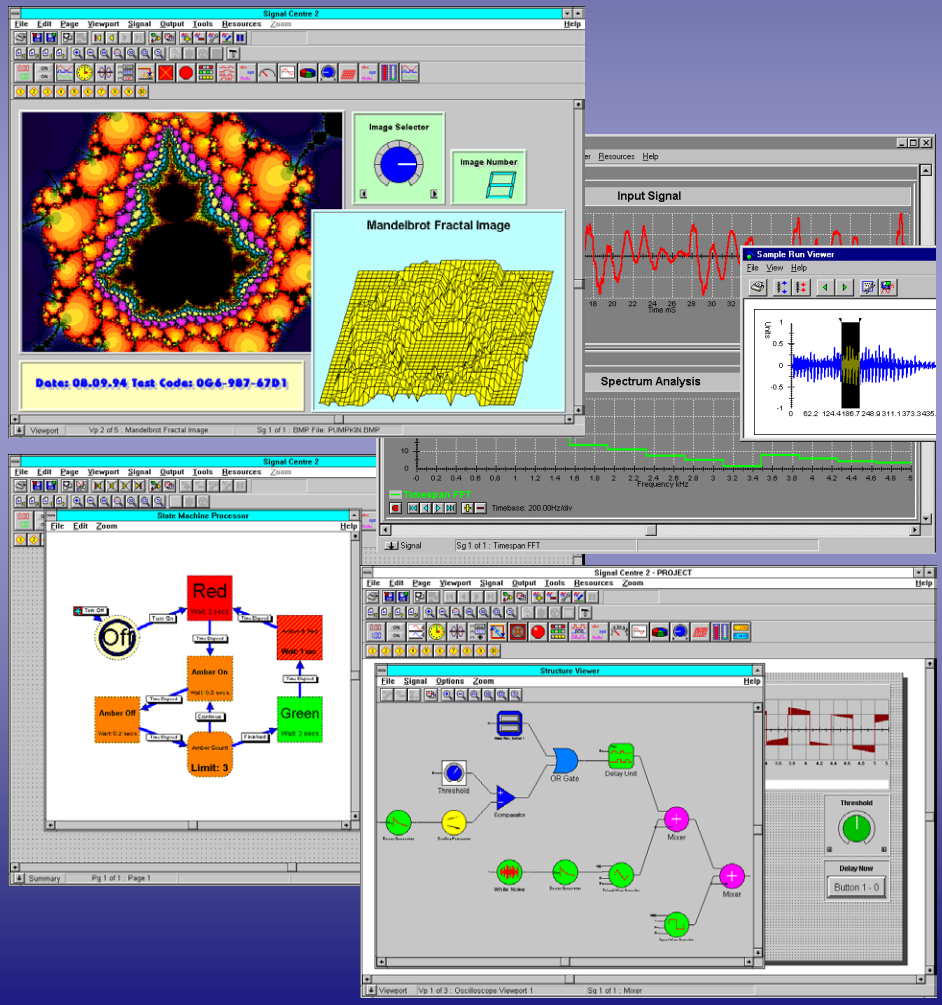
Thin Web Server Communication Technology

- Developers Internet enable CE devices via simple API
- Conserve critical space with small footprint
- Access via Microsoft Explorer or Netscape Navigator
- HTTP and File System support

INTRINSYC SP

High Performance Signal Processing Application Development Environment

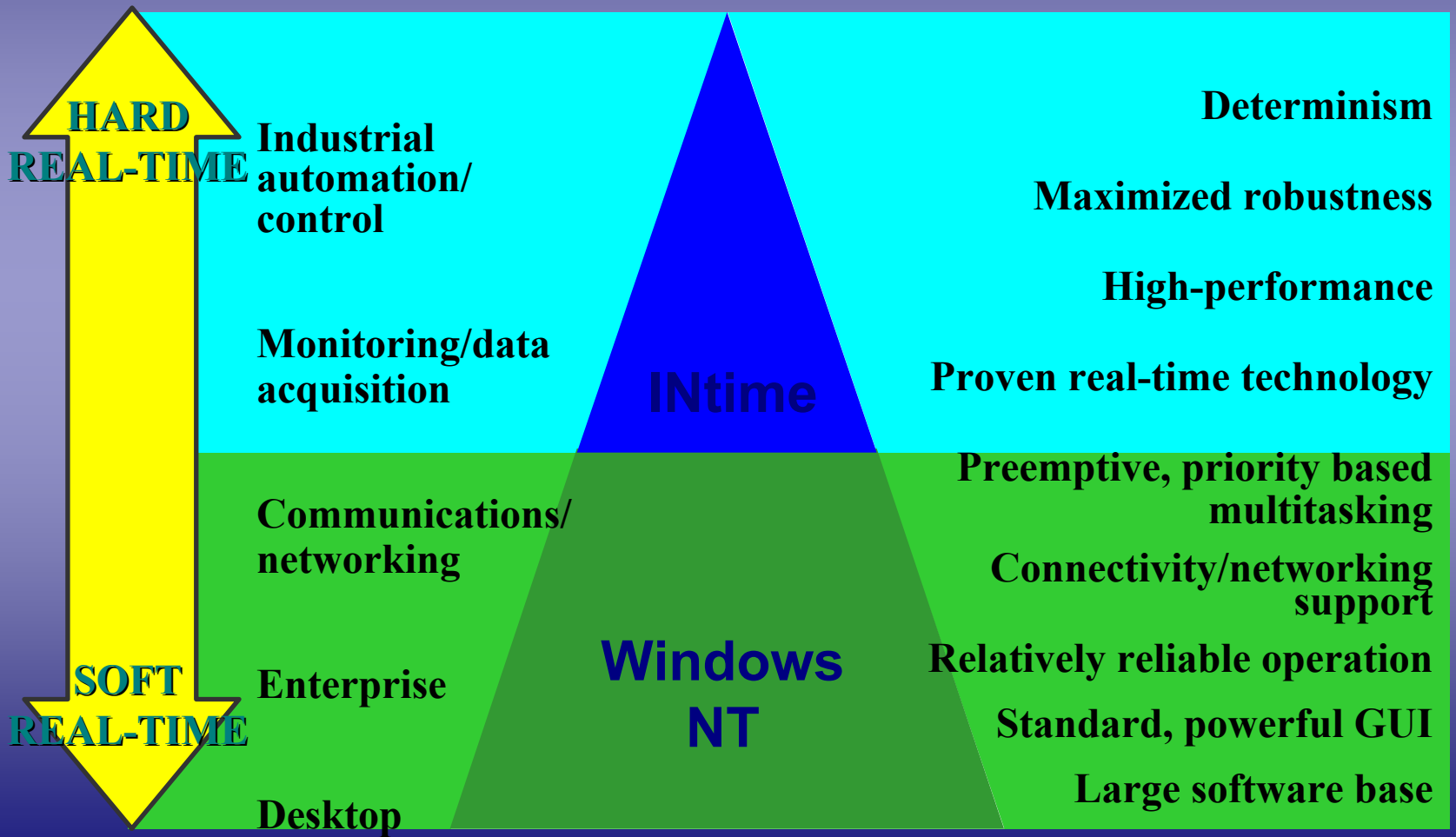
- Integrated signal processing development environment
- Intuitive visual environment requires no programming or debugging.
- 32 bit performance
- Support for leading data acquisition board manufacturers
- 200+ display, control, and processing components
- Open architecture for easy expandability
- Sophisticated scripting language enhances custom development
- Internet aware
- Interfaces to popular COTS formats



INtime : Real-Time NT from RadiSys

RadiSys Embedded Computer Experts

INtime is a Real-Time extension to NT which provides mission critical performance and absolute determinism



Technology within a Design Process

INTRINSYC

Developer Studio

Development and Integration Environment for any Win32 Application

- Integrated development environment for visual construction of Win32 applications
- Combines functionality of SP, WinFT, INtime, Rainbow, and IX into a single framework
- Include industry standard development tools (i.e. VC++)

Product Offering

- COTS Licenses
- INTRINSYC IDS
- INTRINSYC SP
- INTRINSYC IX
- Embedded Technology (Runtime Licenses)
  - RadiSys INtime
  - Intrinsyc SP
  - Intrinsyc WinFT
  - Intrinsyc Rainbow
- Internet based “Pay-For-Use”

Intrinsyc Value-Add

- Enhanced Development Efforts
  - Leading edge development and deployment tools
  - Leverage of industry standard technology
  - Reduction in learning and sustainment curve
- Reduction of Risk
  - Path to implementation
  - System verification and optimization
  - Predictable results
- Improved Time-to-Revenue