Company Overview

MONTAVISTA™
SOFTWARE

Powering the Embedded Revolution

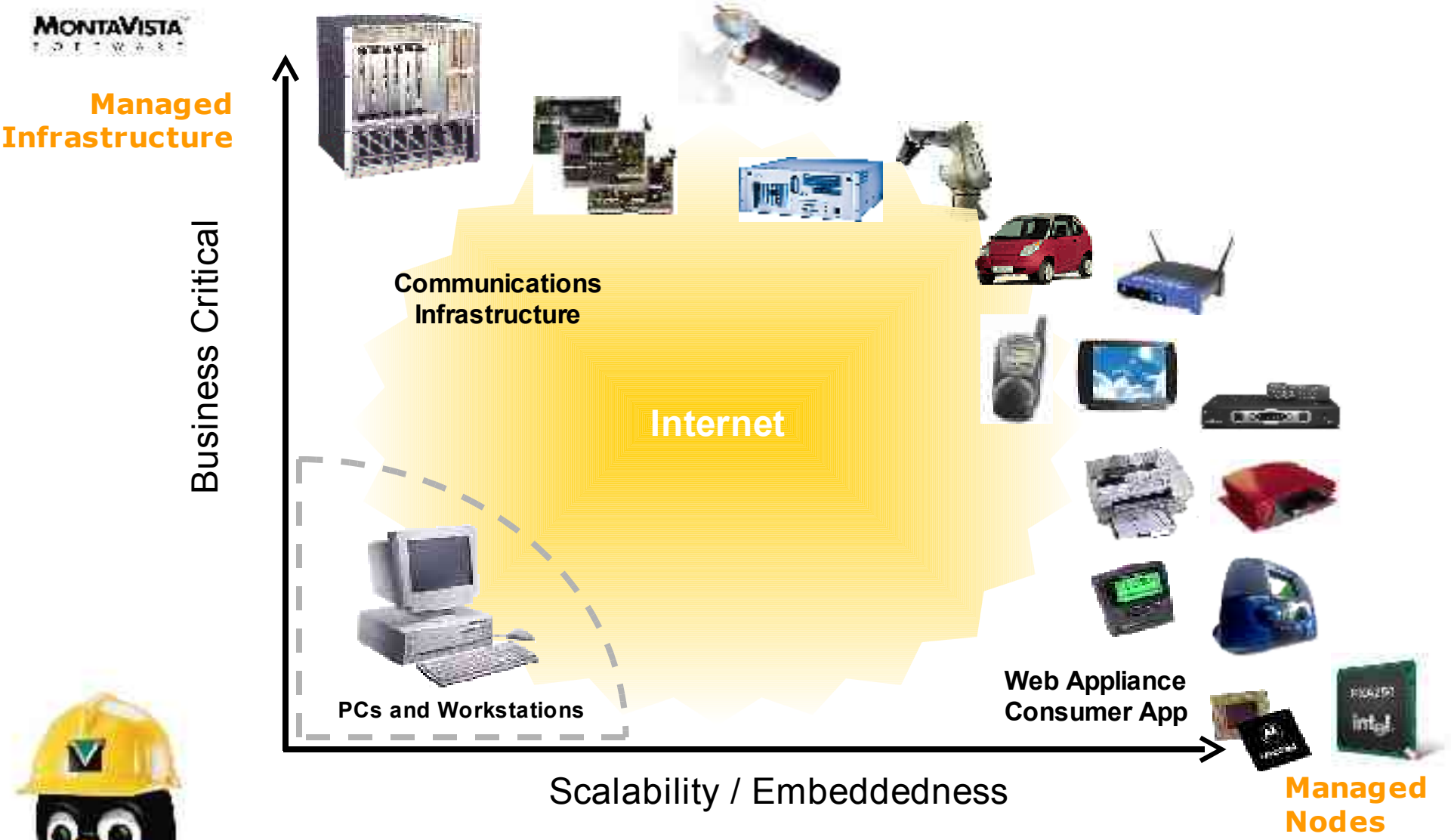
The Embedded Linux Experts

MontaVista History

- Founders & Board
  - Jim Ready: Founder, President & CEO

- Alloy Ventures, RRE Ventures
- U.S. Venture Partners, WR Hambrecht
- Intel corp.
- IBM corp.
- Panasonic corp.
- Sony corp.
- Yahama corp.

MontaVista's Markets



Why MontaVista ?

MONTAVISTA™
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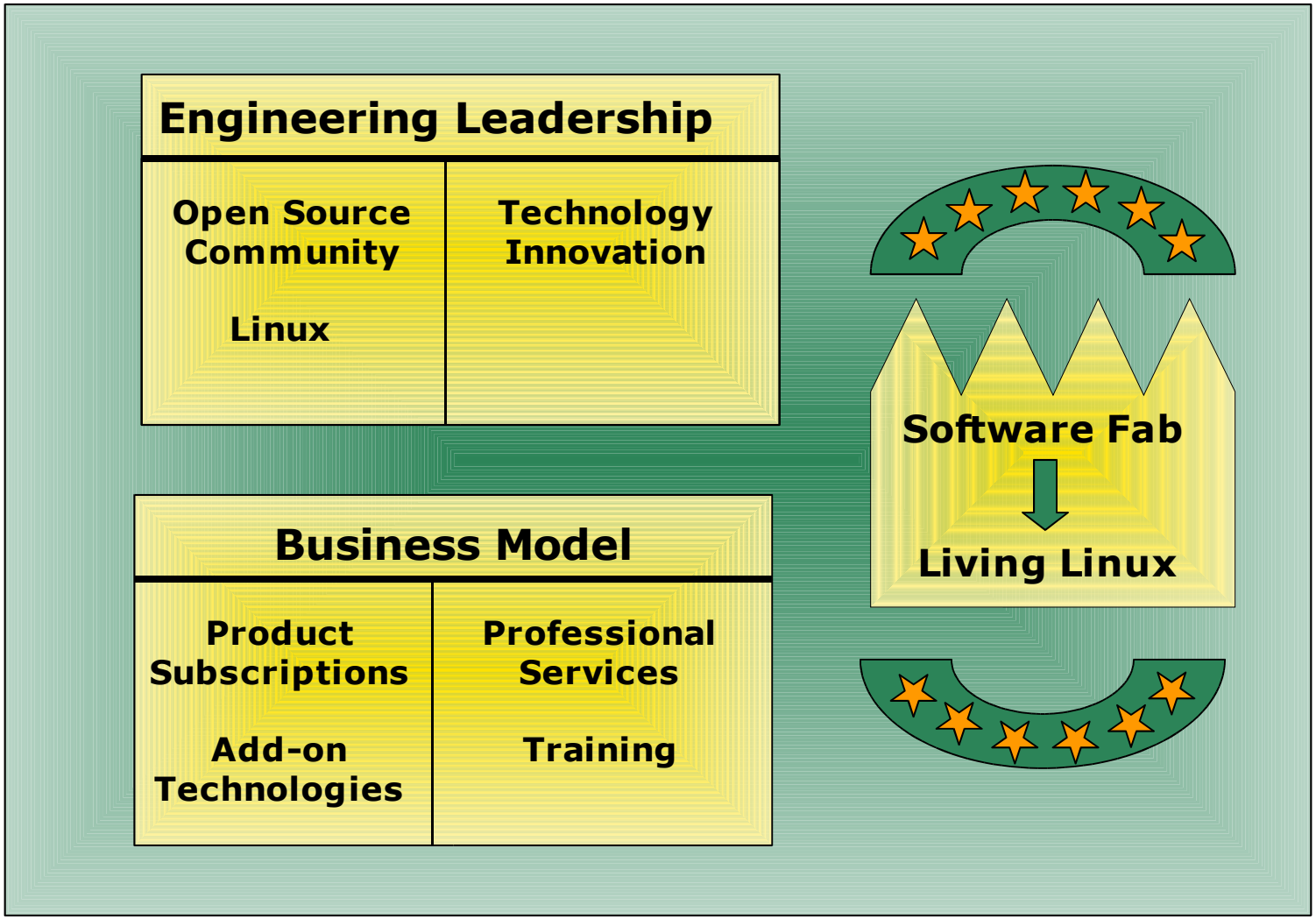
Why MontaVista?

- **100% Pure Linux**
  - Focus on our customers using MontaVista Linux throughout their embedded computing environment
- **Royalty Free**
  - Reduced "cost of ownership"
  - Improved COGS
- **Open Source**
  - No proprietary elements
- **Embedded Linux Expertize**
  - Worldwide Competence Centers

MontaVista Advantages



MontaVista Software

Technology Leadership

Breadth of Processor Support	Cross-Development Environment	Kernel Debugger	Profiling, Tracing & Memory Leak Detection	Config & Optimization Tools	System Measurement Tools
High-Integration CPUs & Peripherals	Embedded Operation (No console, No disk)	Flash Memory Boot & File System	Hardware Management (IPMI)	Fault Tolerant Networking	Dynamic Power Management
Real-time Preemptible Kernel	Scalable Footprint ↓ 0.5 MB	Fixed Priority Scheduler	CompactPCI & Hot Swap (PICMIG)	Service-ability Tools	Native Java Threading & Graphics

MontaVista Linux Customers references

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MontaVista Software

What Our Customers Achieve

"With the convergence of voice and data, telecommunications companies must guarantee the delivery of the end-user services in an affordable way. MontaVista™ Linux® provides a standards-based, open-architecture, embedded software base that is both reliable and scalable."

-- Matti Airas
Director, Nokia Networks

NOKIA
Connecting People

The **Nokia FlexiServer™**, in the network domain, is an open carrier-grade server platform using the Linux® operating system. FlexiServer will be the foundation for core network products with functions such as session control and registers. In radio access, FlexiServer is used for managing the signaling plane of mobility control functions, including common radio resource management.

MONTAVISTA SOFTWARE

What Our Customers Achieve

"MontaVista Software is an important partner and MontaVista Linux has been contributing to our Linux strategy. The fruits of our relationship with MontaVista Software can be seen in our products that we are recently bringing to market such as the Sony CoCoon Channel Server. We welcome MontaVista Linux Consumer Electronics Edition as a catalyst and enabler for next generation digital home electronic devices"

-- Masao Hori
deputy president
Network & Software Technology Center
Sony Corporation

MONTAVISTA SOFTWARE

What Our Customers Achieve

"This handset is special because it features one of the most open and flexible software platforms. By supporting the open source Linux OS along with Java technology, Motorola is providing the most creative and fertile environment possible to set the stage for a "best experiences win" environment."

---Terence Lam
Senior Global Marketing Manager
Smartphone and Networked Entertainment Products
Motorola Personal Communications Sector

Motorola A760

MONTAVISTA SOFTWARE

What Our Customers Achieve

"MontaVista Software has demonstrated its ability to deliver leading edge technology, stimulate product innovation and work hand-in-hand with its customers to enable industry-leading products.… we are relying on MontaVista to help us deliver Linux-based mobile phones to global markets. The flexibility of the MontaVista Linux development platform will allow us to produce innovative mobile phone products with multi-media capabilities that provide a compelling experience for mobile users."

-- Seiji Mitsuoka, general manager
Mobile Terminals Software Development Division
NEC

NEC Empowered by Innovation

What Our Customers Achieve

"Replacing proprietary software with Linux in our embedded platform was an old dream. MontaVista Linux and MontaVista's professional services allowed us to finally move forward with the project, with confidence, and introduce our new product in less than five months – record time!"

-- Daniel Dalarossa
CEO
Cyclades

TS2000

What Our Customers Achieve

"MontaVista was the only company driving fully functional embedded Linux product solutions for our applications. We were delighted by the performance improvement that MontaVista Linux delivered in our benchmark tests, compared with proprietary [Mentor Graphic's] VRTX and [WindRiver's] pSOS real time operating systems that ran on our previous generation Ethernet switches.

We achieved between a five-fold and ten-fold improvement in TCP/IP throughput, due primarily to the collective contribution from the Open Source Community utilized in MontaVista Linux."

-- Bruno Rolland
Managing Director
Interface Concepts

What Our Customers Achieve

"Varco was able to meet very aggressive time-to-market deadlines using MontaVista Linux. MontaVista's superb technical support helped our engineers overcome technical and reliability challenges"

-- George Boyadjieff
Chairman and CEO
Varco International

VARCO e-drill – Can remotely monitor and analyze oil drilling rig performance in real-time, detect system problems and enhance operating efficiency, change system parameters, and update the system with enhanced functionality.

What Our Customers Achieve

"MontaVista has worked with ITT to pioneer the port of Linux to the StrongArm processor. No other vendor was willing to accept the StrongArm port, but working with MontaVista, we had MontaVista Linux up and running on our processor in the first week…. By leveraging MontaVista's embedded Linux expertise, our team was able to concentrate on our technology competence, and bring this product to market much sooner!"

-- John Kirkwood
Company Spokesperson
ITT Aerospace Communications Division

MontaVista Software Products

Professional Edition

Carrier Grade Edition

Consumer Electronics Edition

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MontaVista Products

Qtopia
(Trolltech Application Framework)

Qt/Embedded (Trolltech Graphics)

Qt/Embedded (Trolltech Graphics)

MontaVista™ Graphics
(Open Source based)

MontaVista™ Graphics
(Open Source based)

WebSphere Micro Environment (Java J2ME & Custom)

WebSphere Micro Environment (Java J2ME & Custom)

Carrier Grade Edition
Development & Runtime
Hardened Kernel & Drivers
x86 Architecture

Professional Edition
Cross Development Env
Multiple Architectures

Consumer Electronics Edition
Cross Development Env
Dynamic Power Management
Selected Architectures

MontaVista™ Linux®
Common Linux OS and development tools

SERVICES & TRAINING

MontaVista Linux Professional Edition

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MontaVista Linux

Development Environments

Self-hosted and Cross

Cross

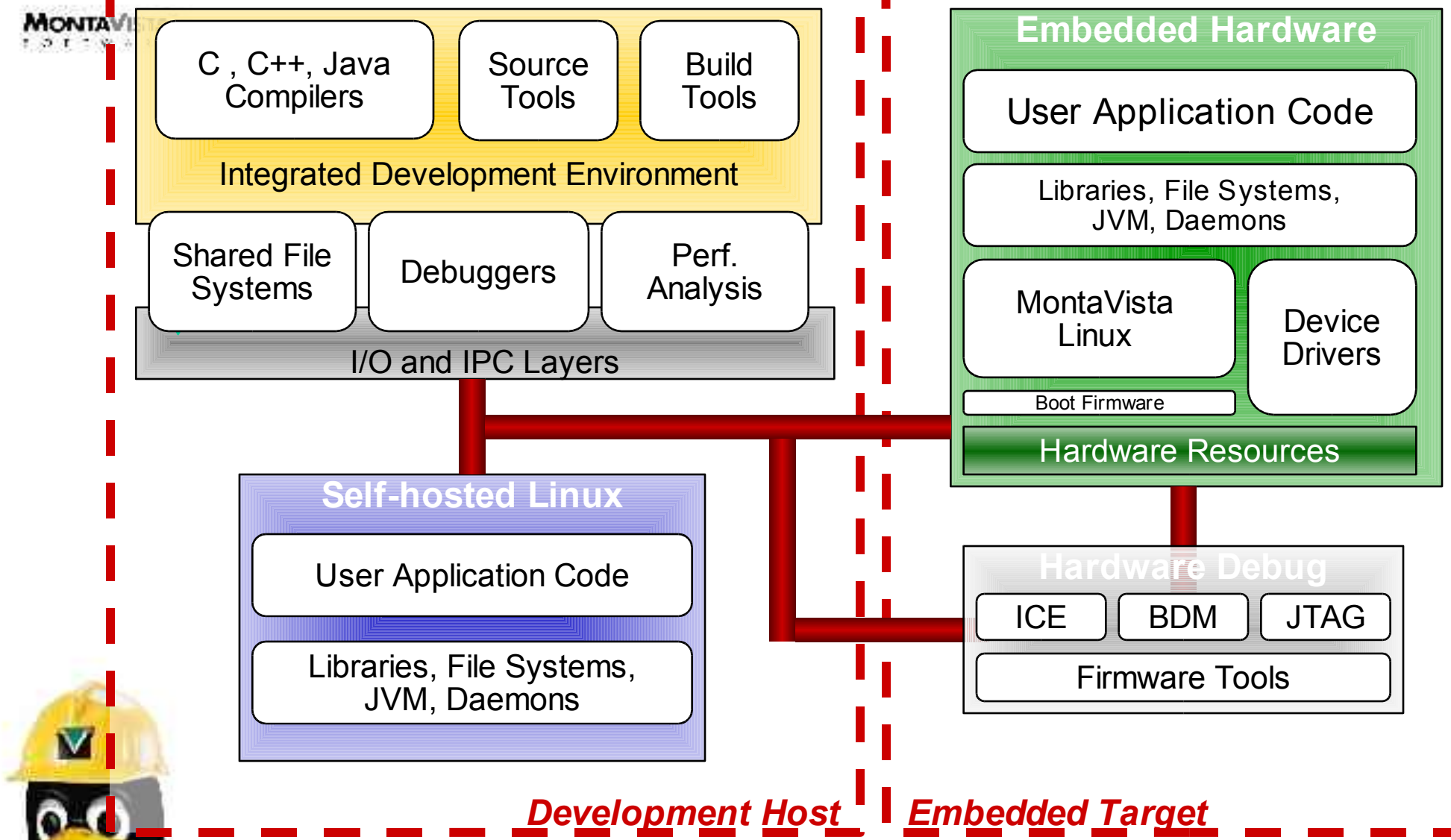
Cross

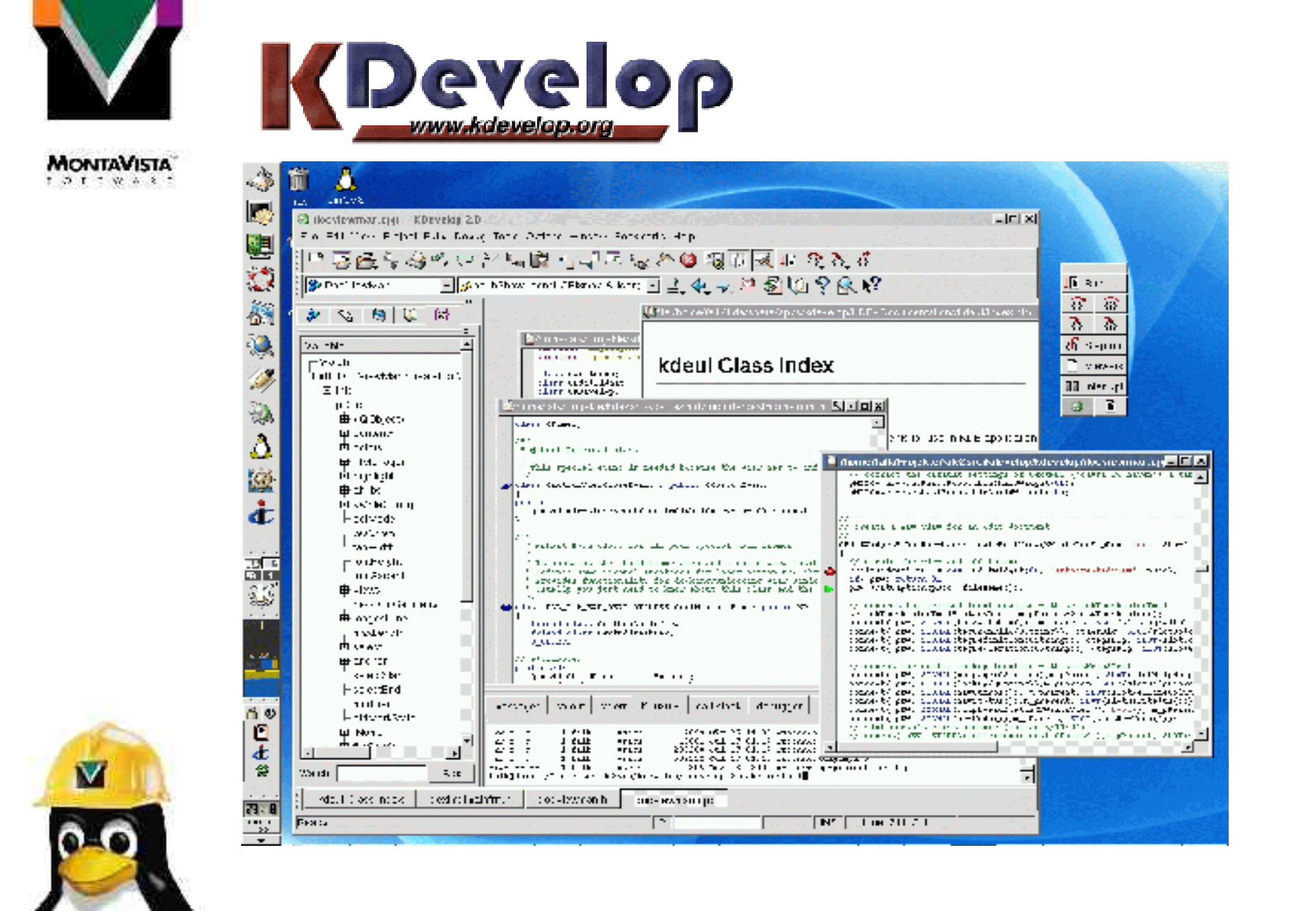
Development Server

Ethernet, Serial
BDM/JTAG, etc.

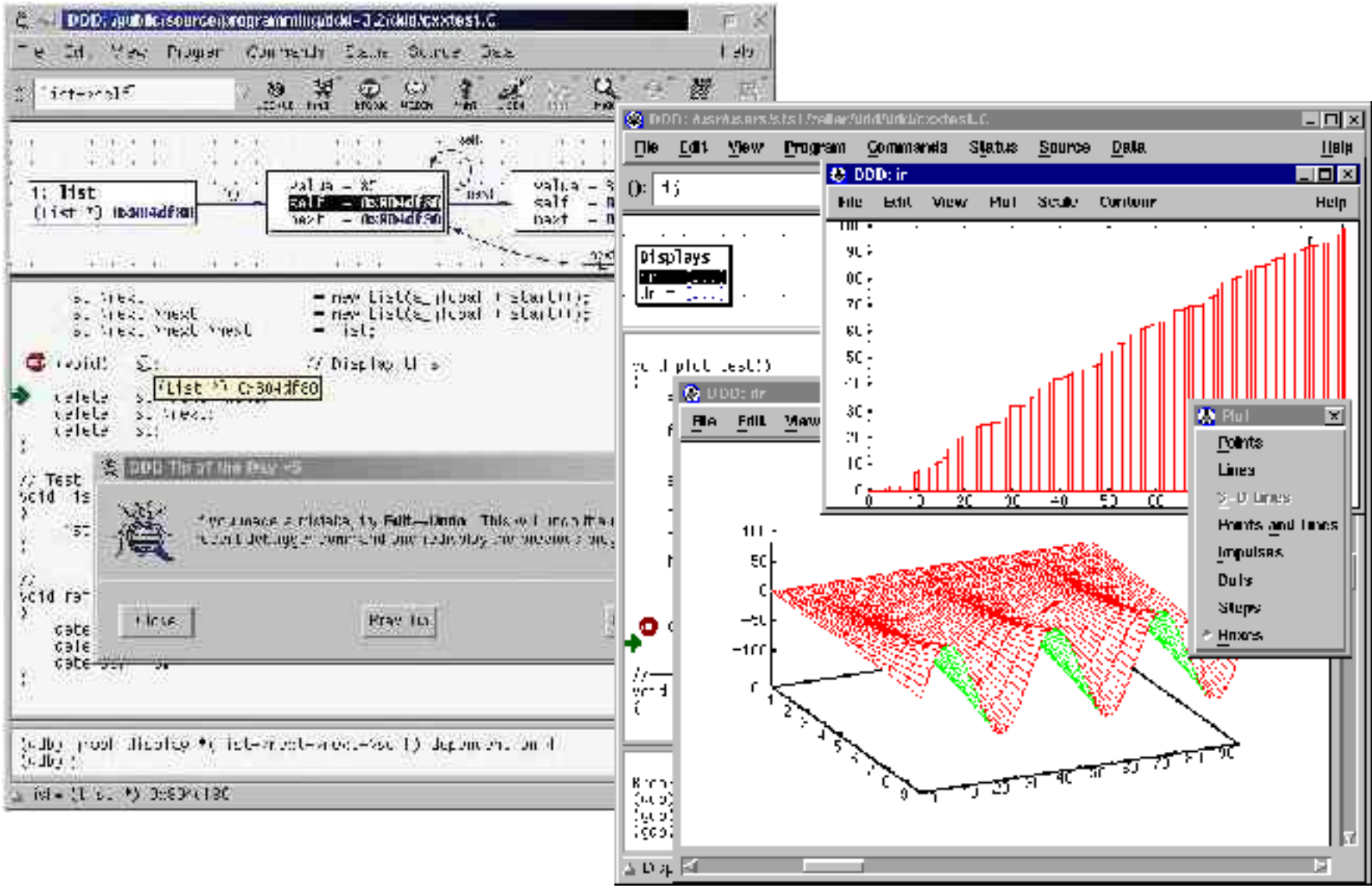
Embedded Target(s)

MontaVista Linux Tools

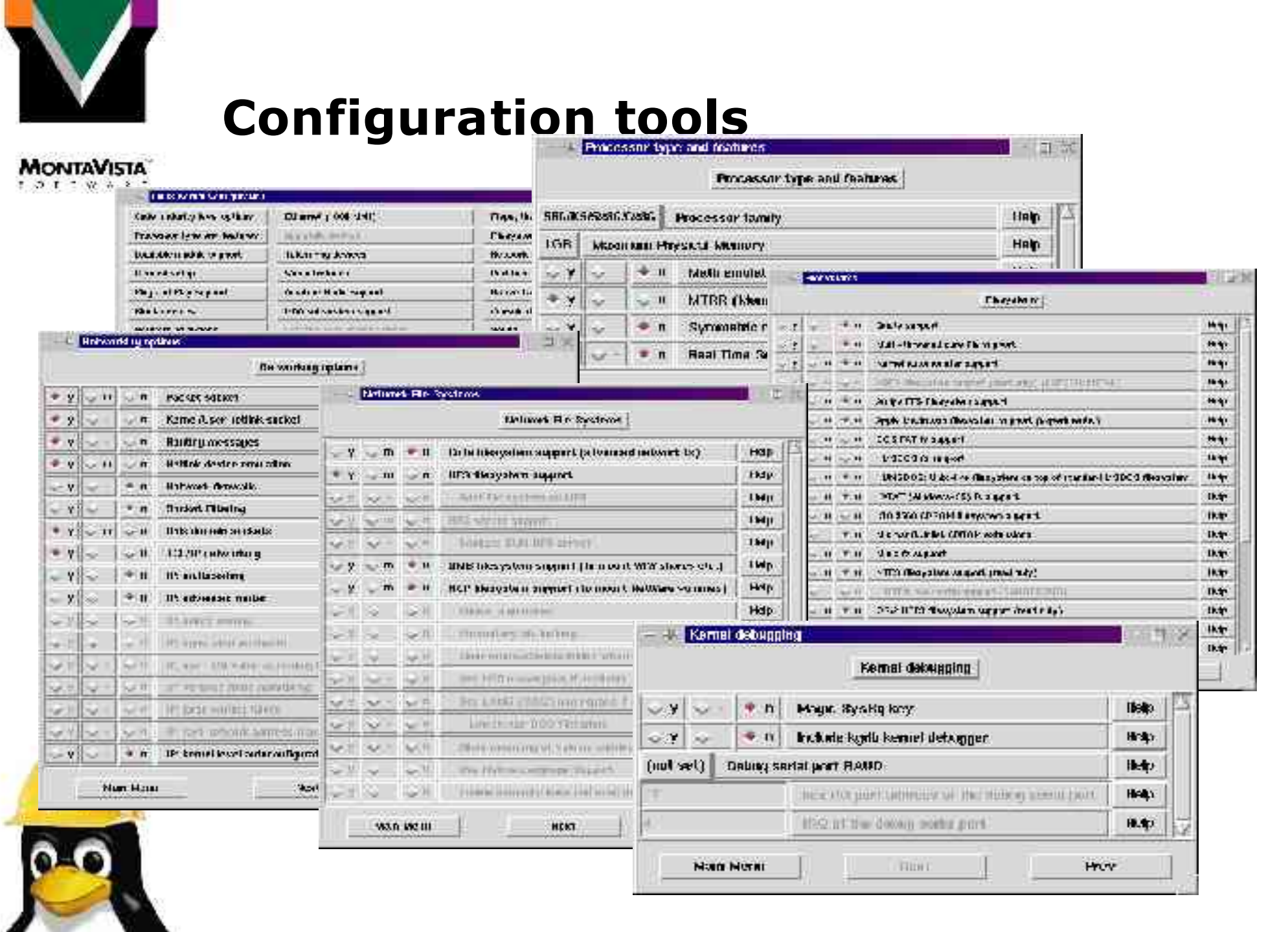



KDevelop
www.kdevelop.org
MontaVista
kdeui Class Index

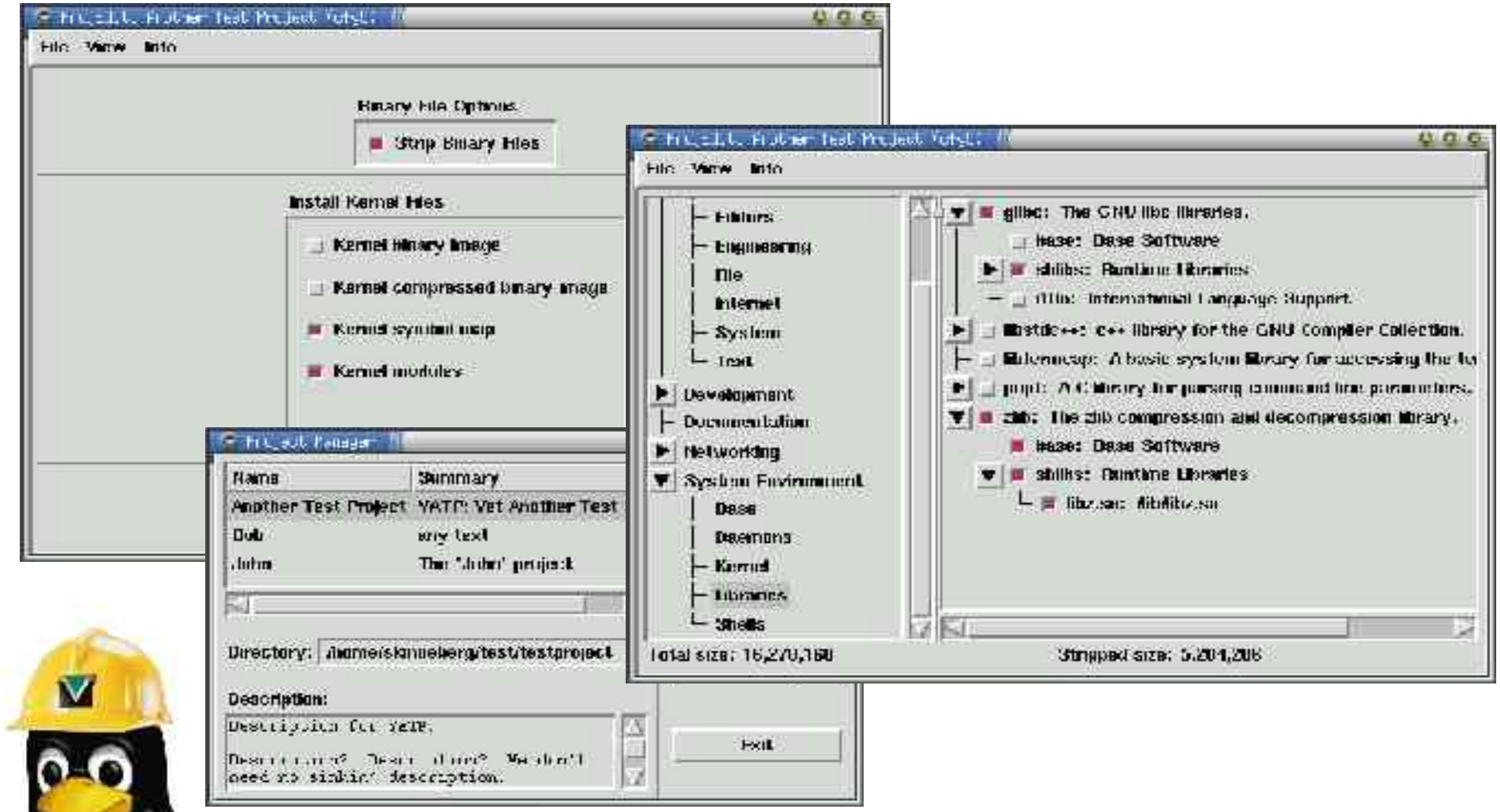
DDD/GDB multithreading debug



Configuration tools



TCT Screen Shots



Trace Toolkit

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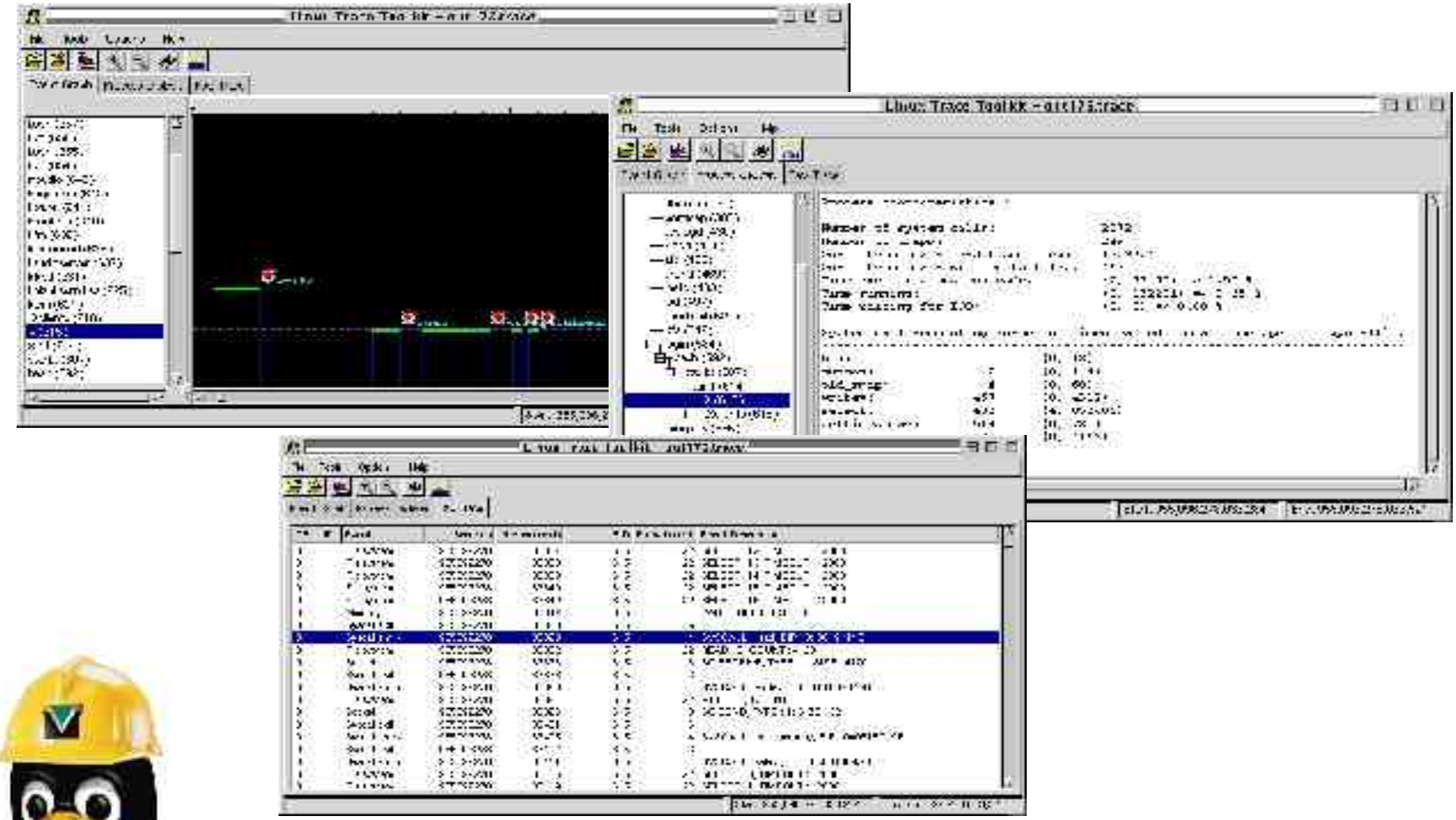

Packages

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MontaVista Linux

Value-added for Embedded Applications

- 250+ Packages in CDK
- Real Time/Deterministic/Preemptible Kernel Version
- Debug multithread
- SMP support
- JFFS support (Flash/hard disk)
- NIC-based netboot
- Scalable footprint down to 0.5 megabytes
- Embedded operation (no console, no disk)
- Flash memory boot and file system
- Support for high-integration CPUs, peripherals

Migration Kit

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Moving from

Psos or WindRiver

MontaVista Linux Carrier Grade Edition

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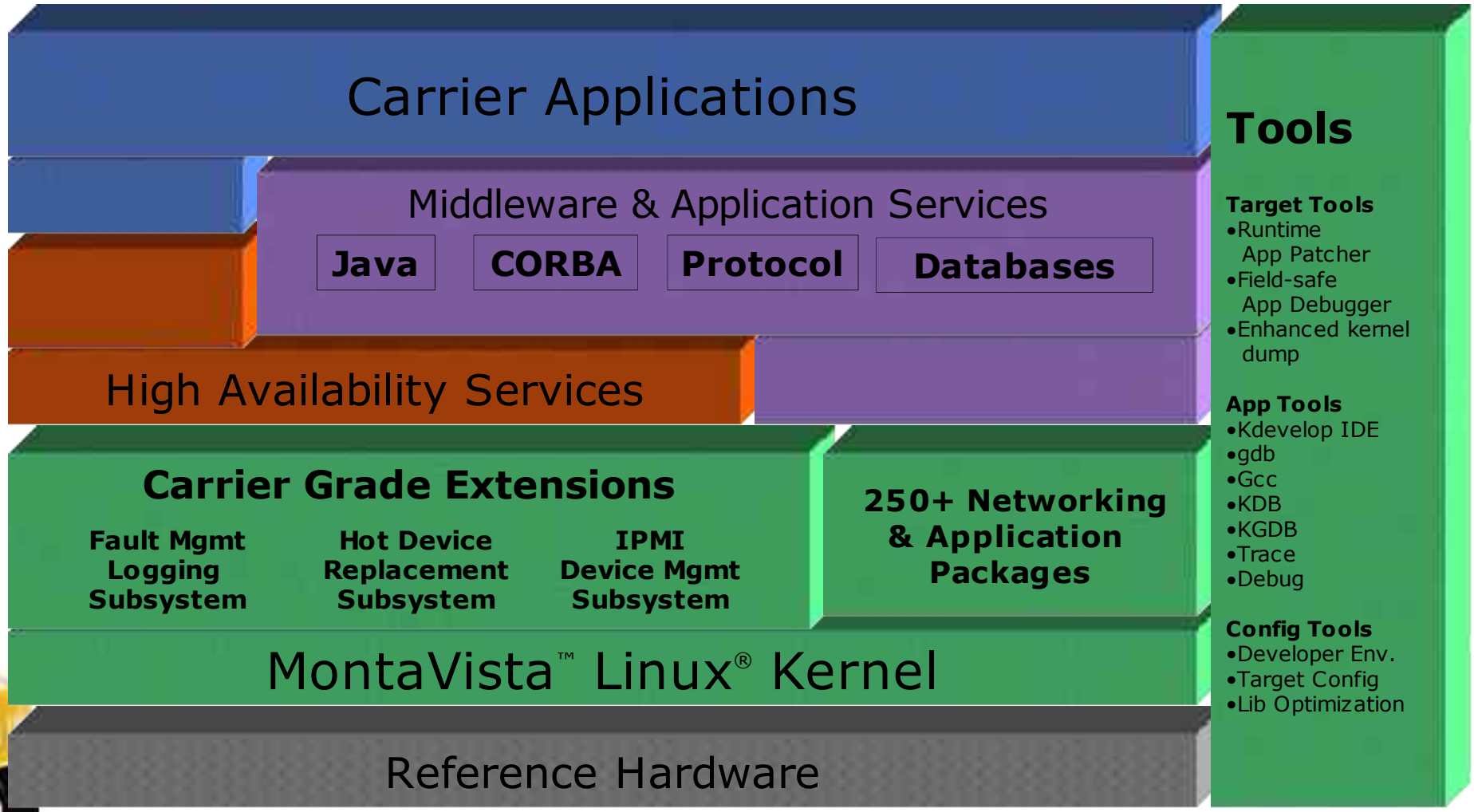
Carrier Grade Linux

Ecosystem Architecture



= Components of MontaVista™ Linux® Carrier Grade Edition

MontaVista Linux Consumer Electronics Edition

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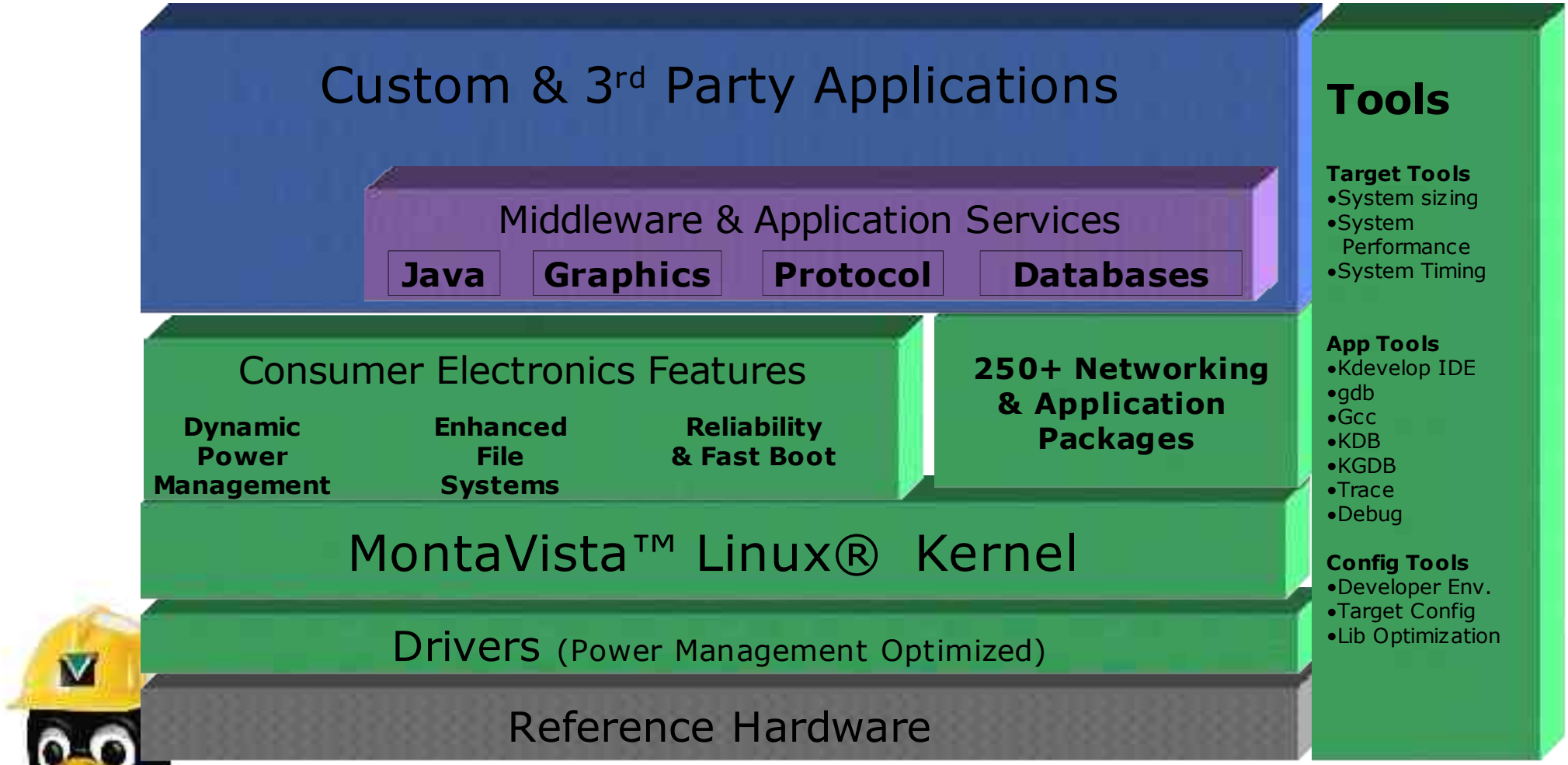
Consumer Electronics Edition

System Architecture



= Components of MontaVista™ Linux® Consumer Electronics Edition

Graphics for Linux

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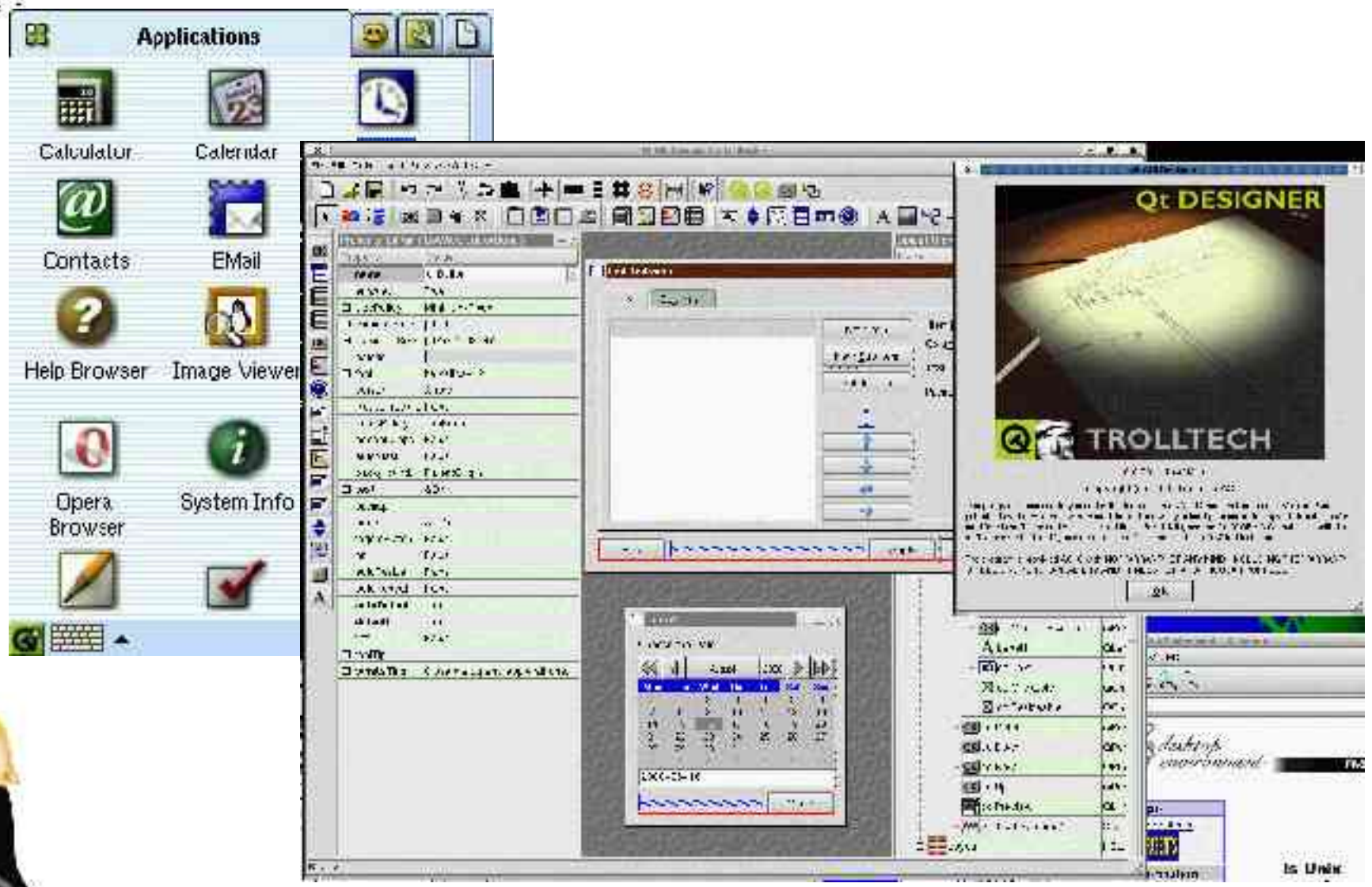
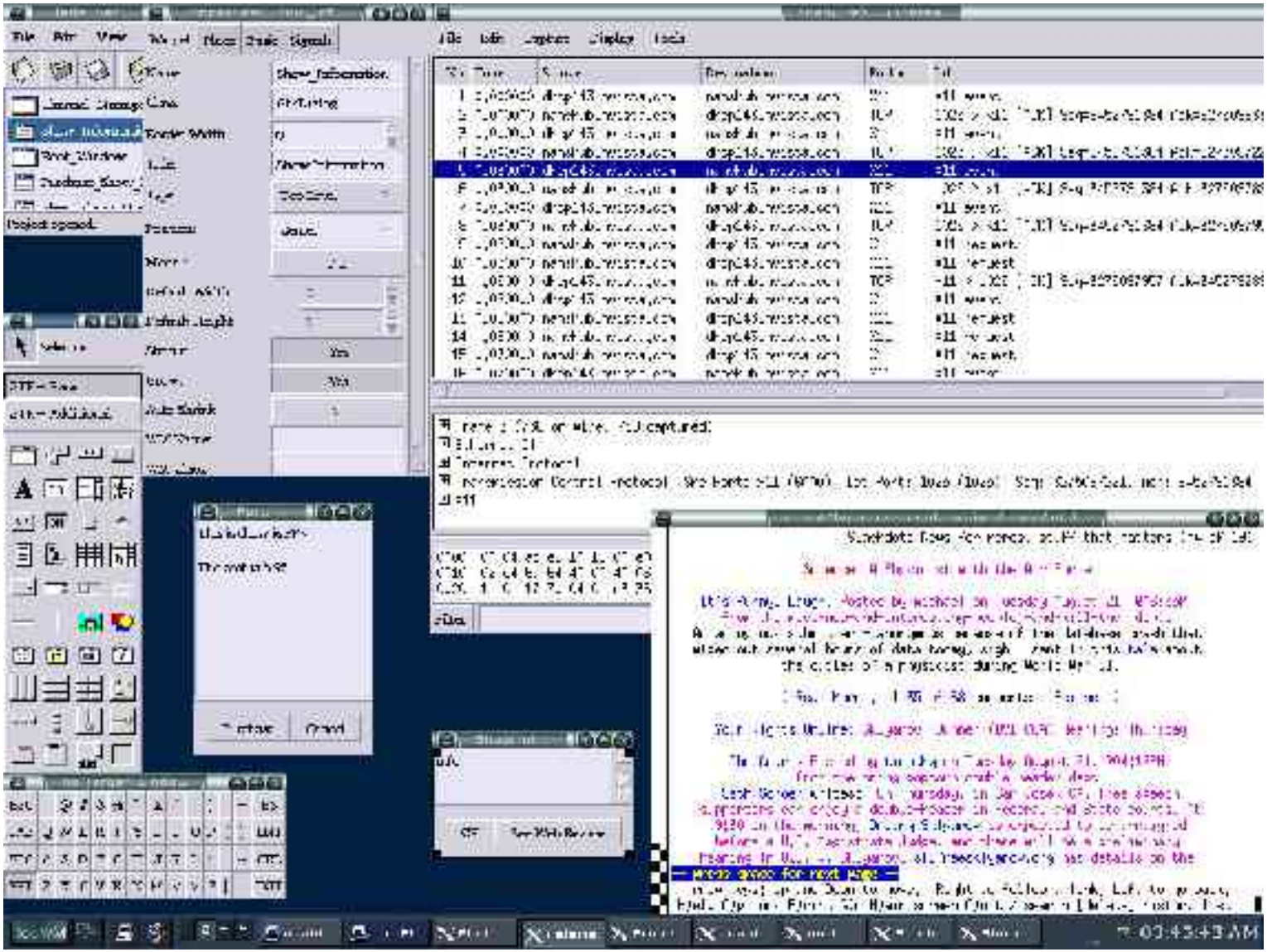
Trolltech : e/QT or Qtopia



MontaVista Graphics



Java and Embedded Linux:

Made for Each Other

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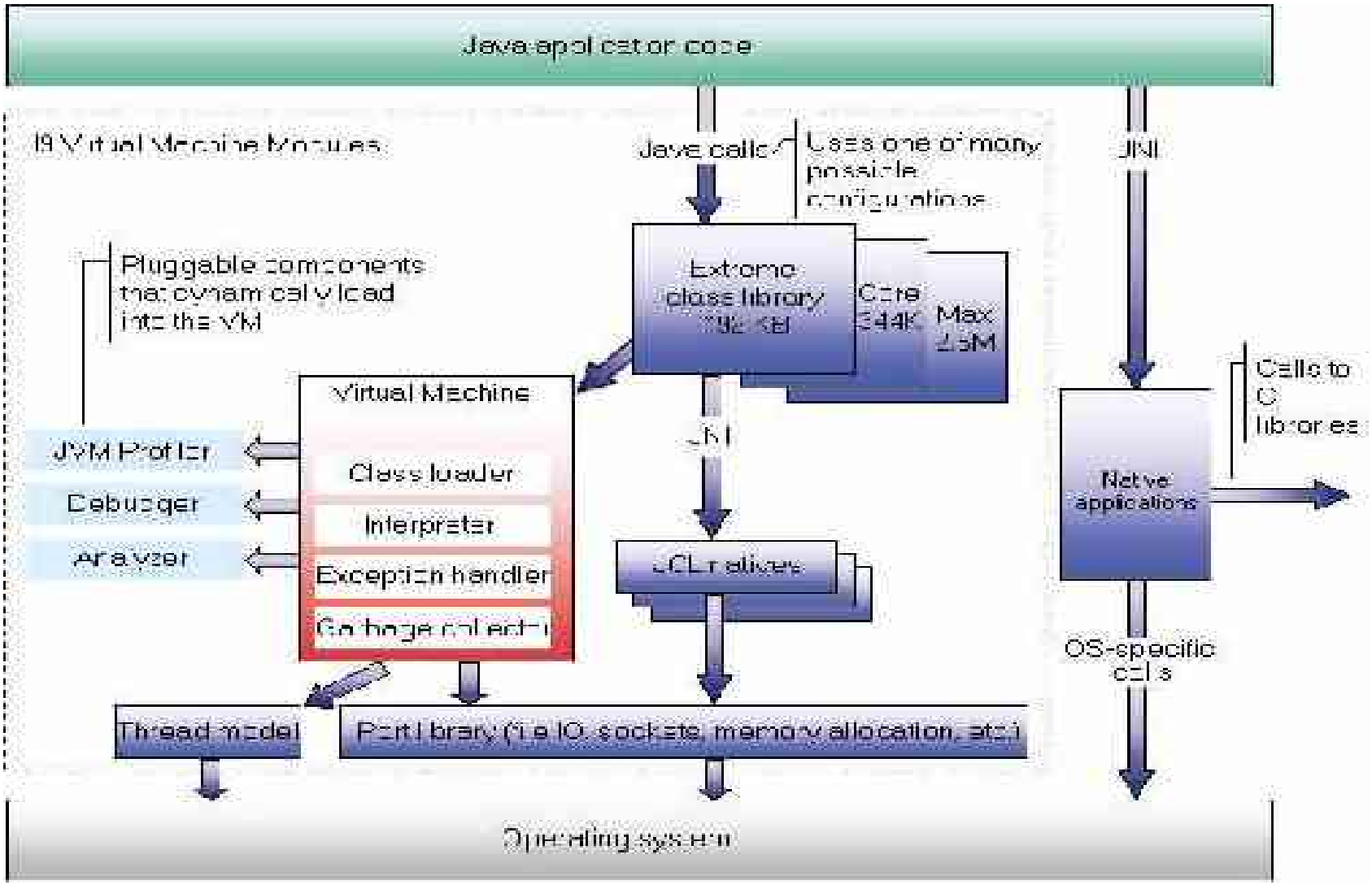
IBM : Websphere +J9



MontaVista Added Value

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Risks with Roll-Your-Own Linux

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Action	Risks
Download code from dozens of sites, e.g, Kernel.org; Architecture tree; development tools; host components; networking; file systems; utilities, etc.	Code at different revisions – each open source tree moves independently. Takes significant effort to make them work together
Build usable native and cross-development tools. Qualify, obtain and apply useful / needed patches	Tools/Libraries mismatch
Build and bring up Linux kernel and drivers	Kernel stability & Untested Drivers & most are IA32
Configure thousands of options and correctly, optimally populate target file system	Must hand-configure target system
QA and test for your platform environment	No standard Linux test environment. Must fully stress test for quality.
Updates to existing build for bugs (esp security bugs) includes tracking and rebuilding environment	Significant effort to "keep up" with 2000+ kernel emails per week. High exposure to miss a critical fix.
Repeat for each new major Linux kernel release	Fall behind and lose benefits of new features & HW support
Repeat for each architecture/chip used in your organization	Each architecture is unique – above process starts over

MontaVista Benefits:

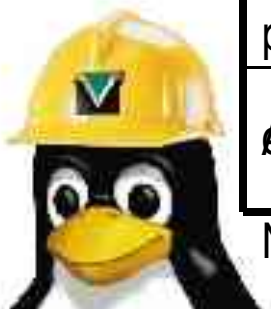
Core OS & Tools Functionality

Open Source	MontaVista Linux	MV Benefits
Lots of Source Code (30 million lines from 20+ different source tree repositories)	Pre-built, out-of-the-box deployment platform and tools	**Faster development & time-to-market**
Mostly IA-32/X86. Other CPUs present disparate, incompatible source trees	Eight fully-enabled architectures: PPC, IA32, MIPS, SH, ARM, StrongARM, XScale, Xtensa built with common sources	**Choice of architecture enables lower COGs / improved performance**
Numerous Device Drivers	Hundreds of tested, integrated drivers and comprehensive board support	**Faster development, higher quality & faster time-to-market**
Command Line Interface, Some cross compilers	Integrated Cross Development and Configuration tools, IDEs	**Faster development & time-to-market**
Rapid, non-stop evolution of Linux	Stable, deployable releases that track the best features of “Living Linux”	**Faster development, higher quality & faster time-to-market**

MontaVista Benefits:

QA, Support, Services, Relationship

Open Source	MontaVista Linux	MV Benefits
Testing & QA based on community best effort	Stable, QA'd and Tested Binaries and Source Code from the MontaVista "Software Fab"	**Higher quality & faster time-to-market**
Support from Mailing Lists, Newsgroups	Dedicated Support Engineers and Guaranteed Response Times, plus the MontaVista Zone	**Reduced risk, faster development & time-to-market**
Documentation based on Man Pages & Linux.org	Detailed Embedded Linux Deployment Guide and Board-specific documentation	**Faster development & time-to-market**
Training by various third-parties on enterprise issues	In-depth classes focused on key embedded topics: device drivers, high availability, jump-start, etc.	**Faster development & time-to-market**
As is GPL code No Warranty	Warranty against defects and license indemnification	**Reduced risk & liabilities**



MERCI – GRACIAS - THANKS

http//:www.mvista.com

Tel :33 (0)1.30.16.28.28

@mail : **pdarcq@mvista.com**

Tel :33 (0)1.30.16.28.01 direct

Gsm : 33 (0) 6.11.47.09.49