

# Company Overview



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*

*The Embedded Linux Experts*





MONTAVISTA  
SOFTWARE

# 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.
- Yamaha corp.



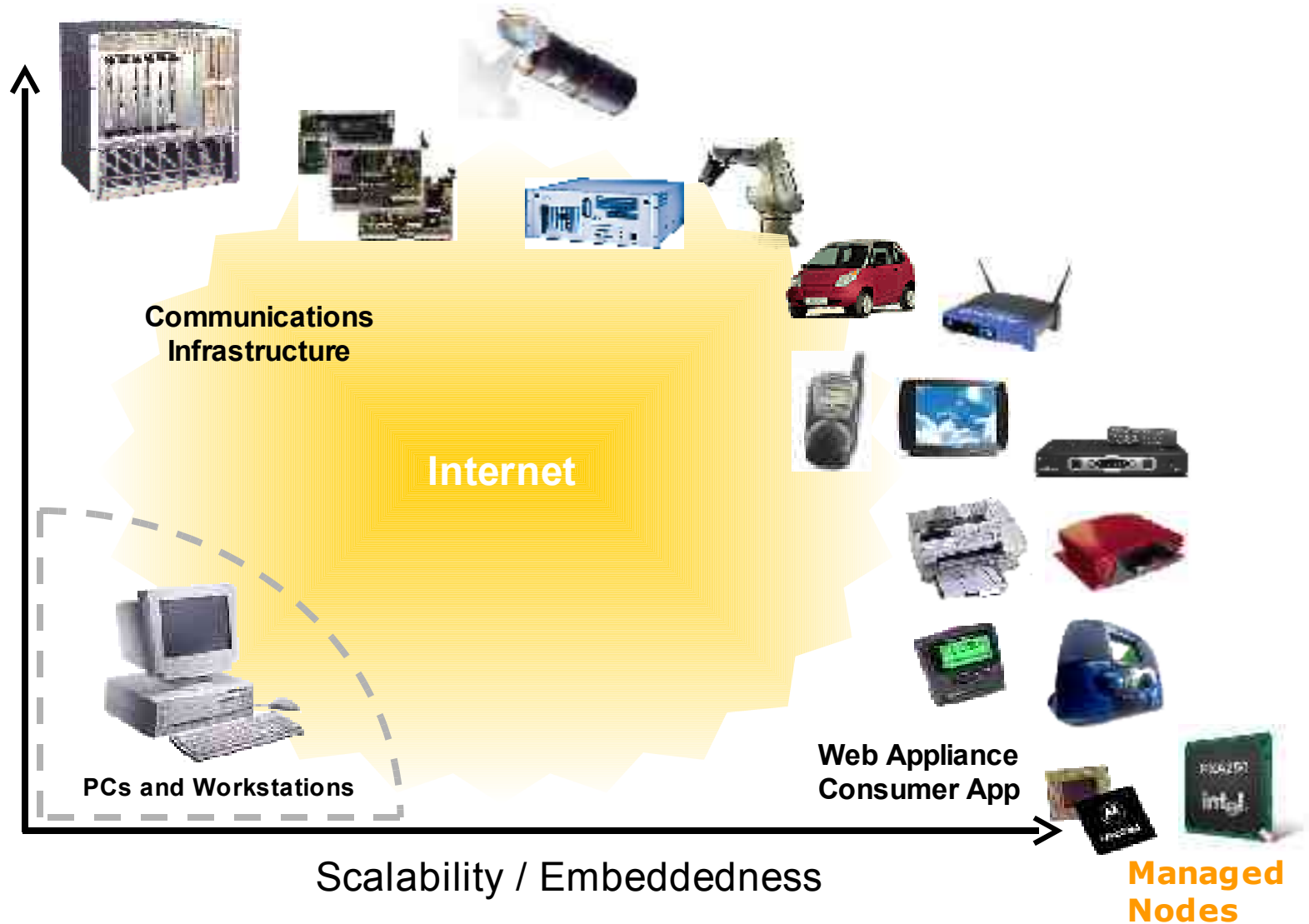


# MontaVista's Markets

MONTAVISTA  
SOFTWARE

Managed  
Infrastructure

Business Critical



# Why MontaVista ?



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*

*The Embedded Linux Experts*





MONTAVISTA  
SOFTWARE

# 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

## Engineering Leadership

Open Source  
Community

Linux

Technology  
Innovation

## Business Model

Product  
Subscriptions

Add-on  
Technologies

Professional  
Services

Training



Software Fab



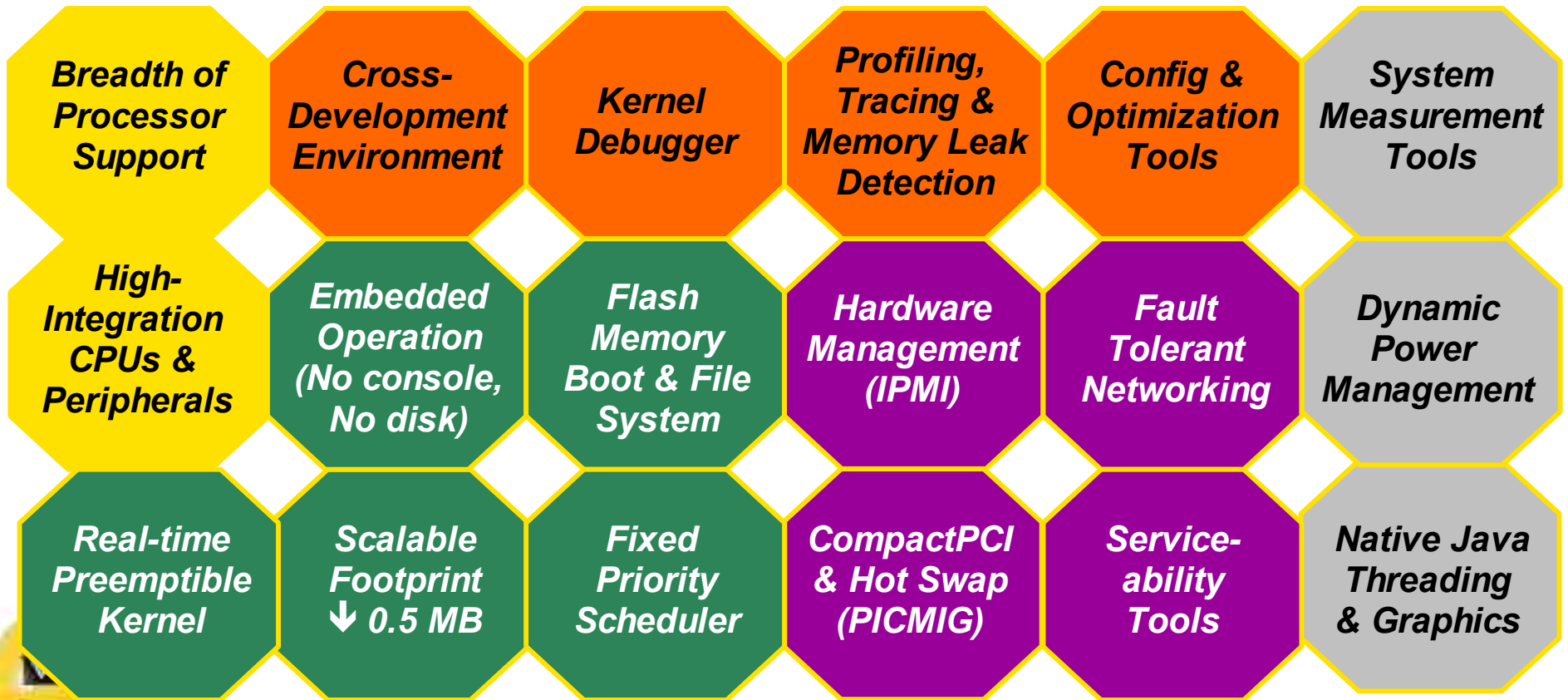
Living Linux





**MONTAVISTA**  
SOFTWARE

# Technology Leadership



# MontaVista Linux

## Customers references



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*

*The Embedded Linux Experts*







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



MONTAVISTA  
SOFTWARE

## 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*





MONTAVISTA  
SOFTWARE

## 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*





MONTAVISTA  
SOFTWARE

## 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.



MONTAVISTA  
SOFTWARE

## 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

**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*

*The Embedded Linux Experts*





**MONTAVISTA**  
SOFTWARE

# MontaVista Products

S  
E  
R  
V  
I  
C  
E  
S  
&  
T  
R  
A  
I  
N  
I  
N  
G

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



# MontaVista Linux Professional Edition



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*



*The Embedded Linux Experts*



MONTAVISTA  
SOFTWARE

# MontaVista Linux

## Development Environments



Self-hosted and Cross



Cross



Cross

Development Server



Embedded Target(s)



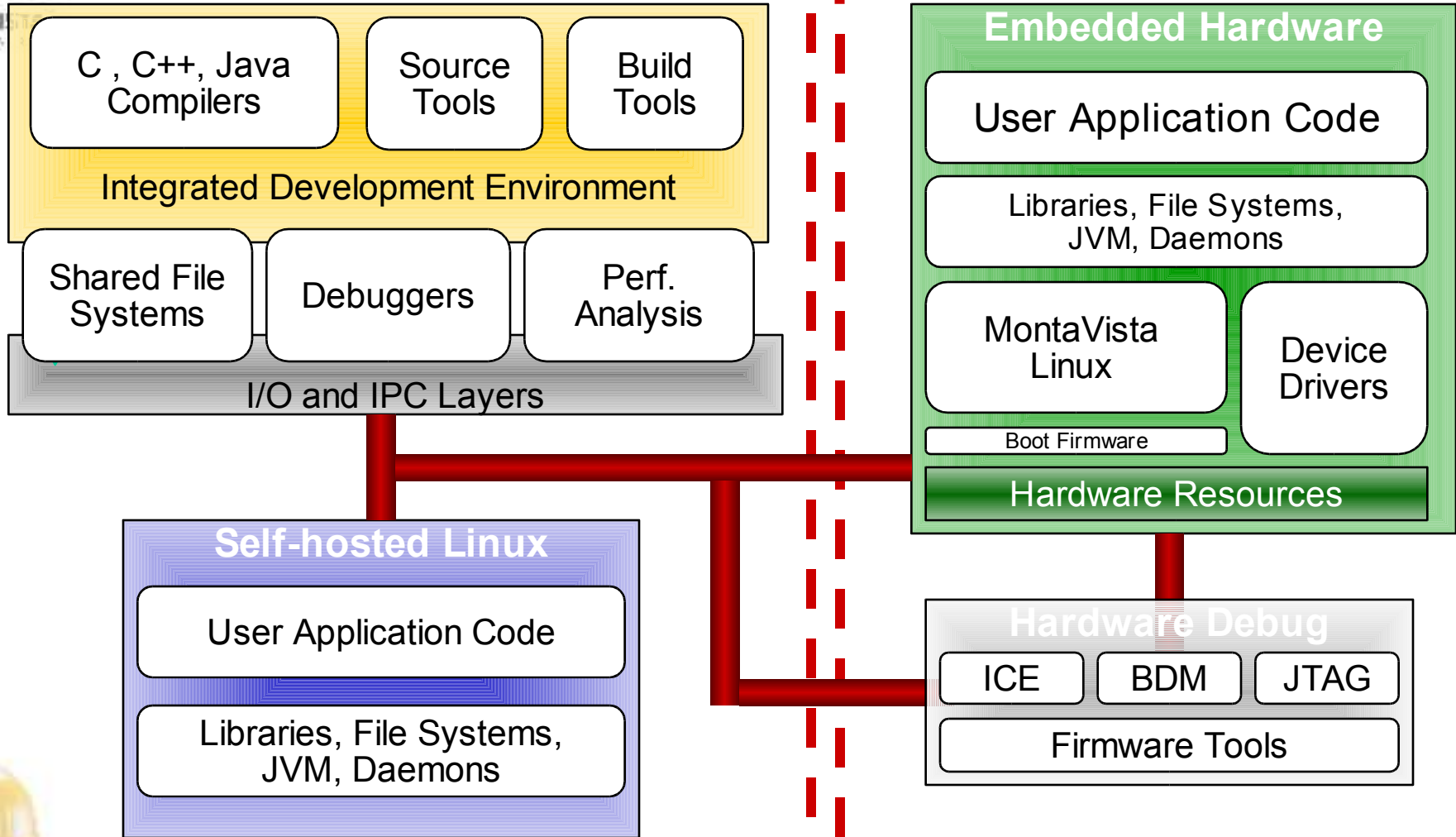
Ethernet, Serial  
BDM/JTAG, etc.





# MontaVista Linux Tools

MONTAVISTA  
LINUX



*Development Host*

*Embedded Target*





# KDevelop

[www.kdevelop.org](http://www.kdevelop.org)

MONTAVISTA  
SOFTWARE

The screenshot displays the KDevelop 2.0 IDE interface. The main window is titled "kdevelopmar.tproj - KDevelop 2.0". The interface includes a menu bar, a toolbar, and a sidebar with a project tree. The central area is divided into several panes:

- Project Tree:** Shows a hierarchical view of the project structure, including folders like "src" and "include", and files like "mainwindow.cpp" and "mainwindow.h".
- Class Index:** A pane titled "kdeui Class Index" showing a list of classes and their relationships.
- Code Editor:** A pane showing the source code of a file, with a search bar and a list of search results.

The interface is running on a desktop environment with a blue background and a taskbar at the bottom. A small window titled "kdeui Class Index" is also visible in the foreground, showing a list of classes and their relationships.





MONTAVISTA  
SOFTWARE

# DDD/GDB multithreading debug

The screenshot shows the DDD main window with a control flow graph at the top. A node labeled '1: list (list \*)' is highlighted, with a callout box showing the value of 'list' as '0x0040df60'. Below the graph is a command window with the following text:

```
set break *...
set break *...
set break *...
// Display U...
// List * 0x0040df60
delete
delete
delete
// Test
void test()
{
  void * p;
  // ...
  delete
  delete
  delete
}
```

The screenshot shows the DDD Plots window. The top plot is a 2D bar chart with red bars, showing a linear increase in values from 0 to 100. The bottom plot is a 3D surface plot with red and green surfaces, showing a complex, multi-peaked structure. A 'Plot' menu is open, listing various visualization options:

- Points
- Lines
- 3-D Lines
- Heats and Lines
- Impulses
- Dots
- Steps
- Boxes





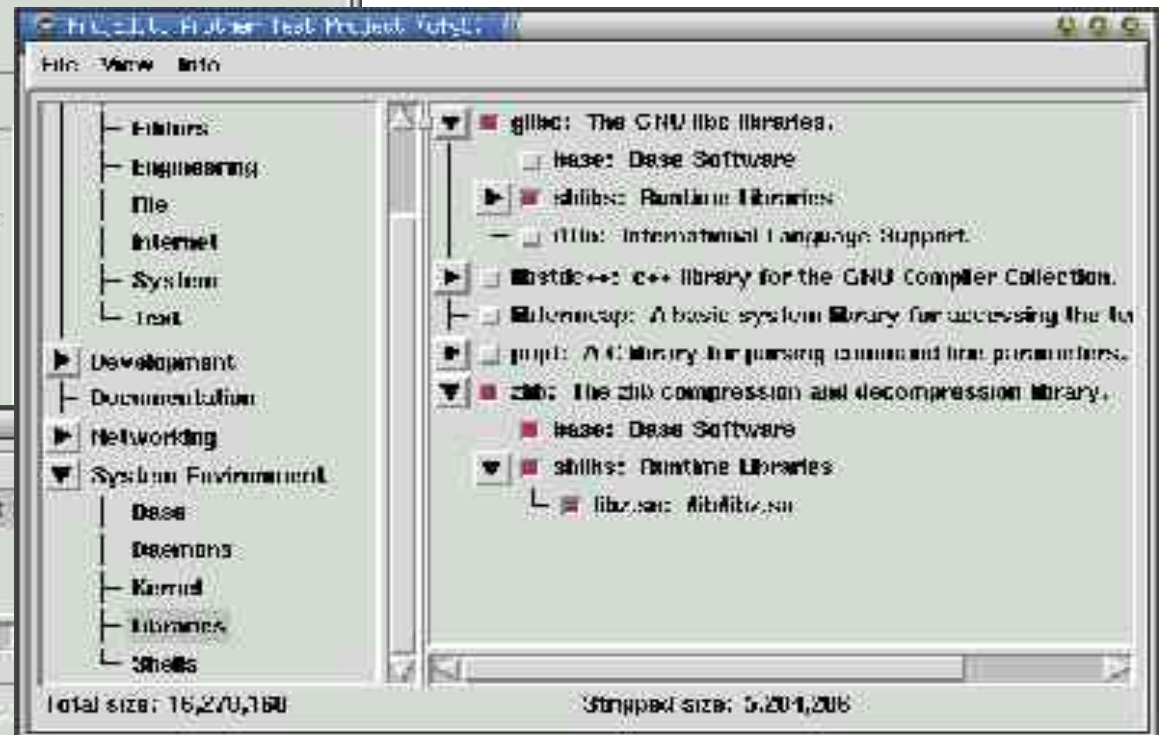
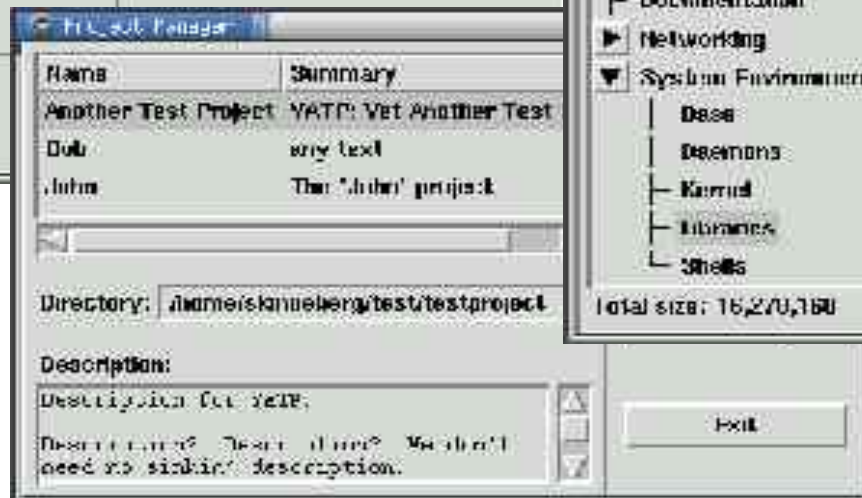
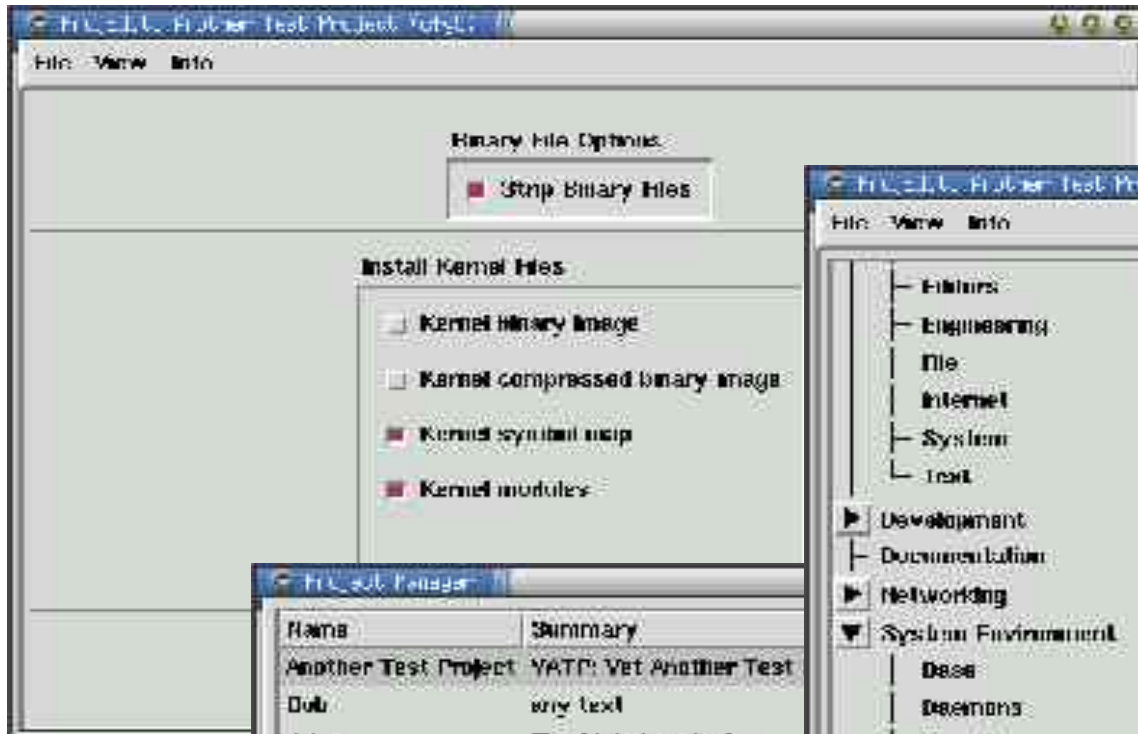




# TCT Screen Shots



MONTAVISTA  
SOFTWARE





# Trace Toolkit

MONTAVISTA  
SOFTWARE

The screenshot displays three overlapping windows from the Linux Trace Toolkit. The top-left window shows a process tree with 'awk' highlighted. The top-right window displays summary statistics for the tracked process, such as 'Number of system calls: 2072'. The bottom window provides a detailed log of system calls in a table format.

#	Proc	Time(s)	Time(us)	PPID	PPID(s)	PPID(us)	PPID(us)
1	awk	0:00:00.000	0:00	1	1	0	0
2	awk	0:00:00.000	0:00	1	1	0	0
3	awk	0:00:00.000	0:00	1	1	0	0
4	awk	0:00:00.000	0:00	1	1	0	0
5	awk	0:00:00.000	0:00	1	1	0	0
6	awk	0:00:00.000	0:00	1	1	0	0
7	awk	0:00:00.000	0:00	1	1	0	0
8	awk	0:00:00.000	0:00	1	1	0	0
9	awk	0:00:00.000	0:00	1	1	0	0
10	awk	0:00:00.000	0:00	1	1	0	0



# Packages



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*

*The Embedded Linux Experts*





# 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



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*

*The Embedded Linux Experts*





**MONTAVISTA**  
SOFTWARE



**Moving from  
Psos or WindRiver**

# MontaVista Linux Carrier Grade Edition



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*

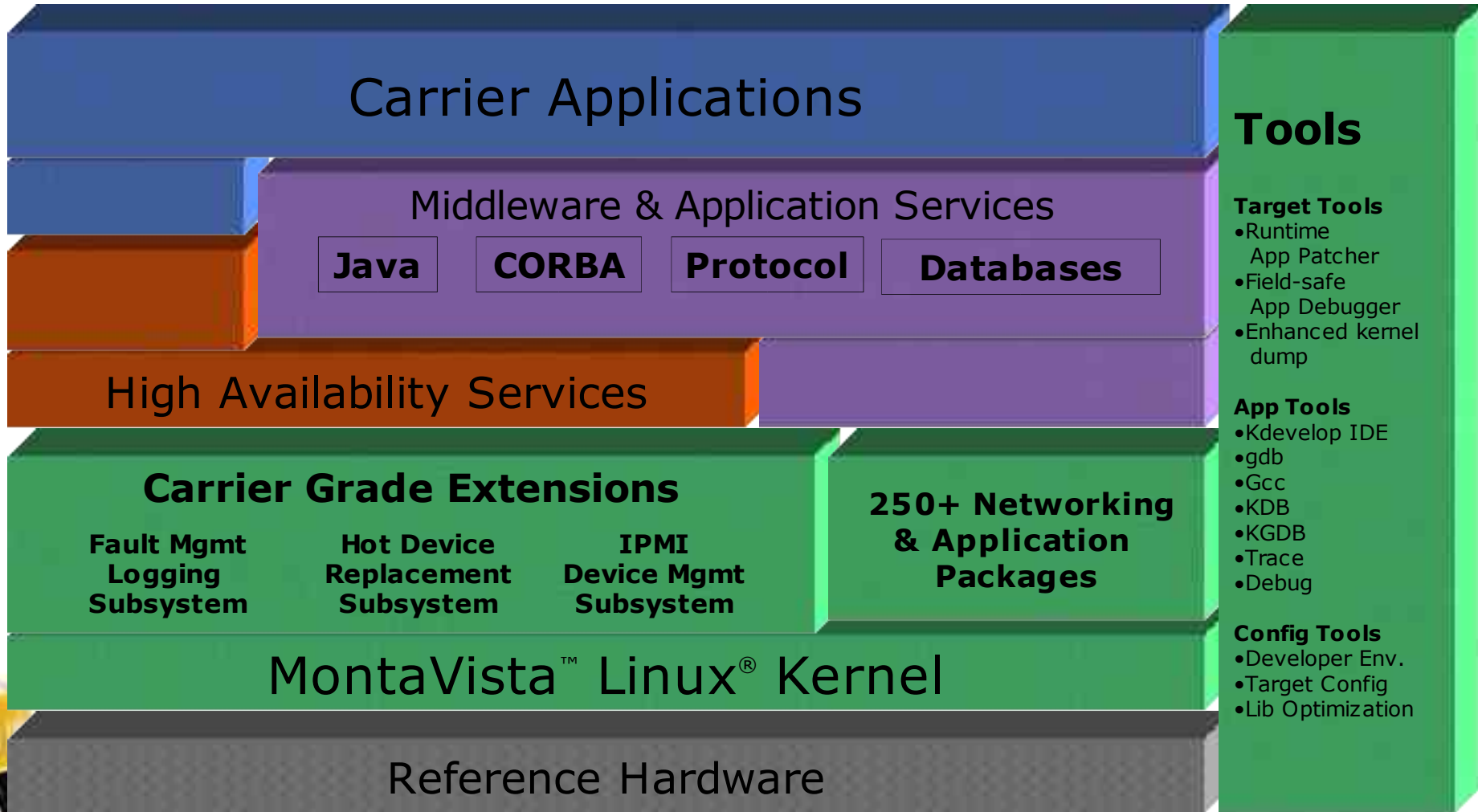


*The Embedded Linux Experts*



MONTAVISTA  
SOFTWARE

# Carrier Grade Linux Ecosystem Architecture



■ = Components of MontaVista™ Linux® Carrier Grade Edition





# MontaVista Linux Consumer Electronics Edition



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*

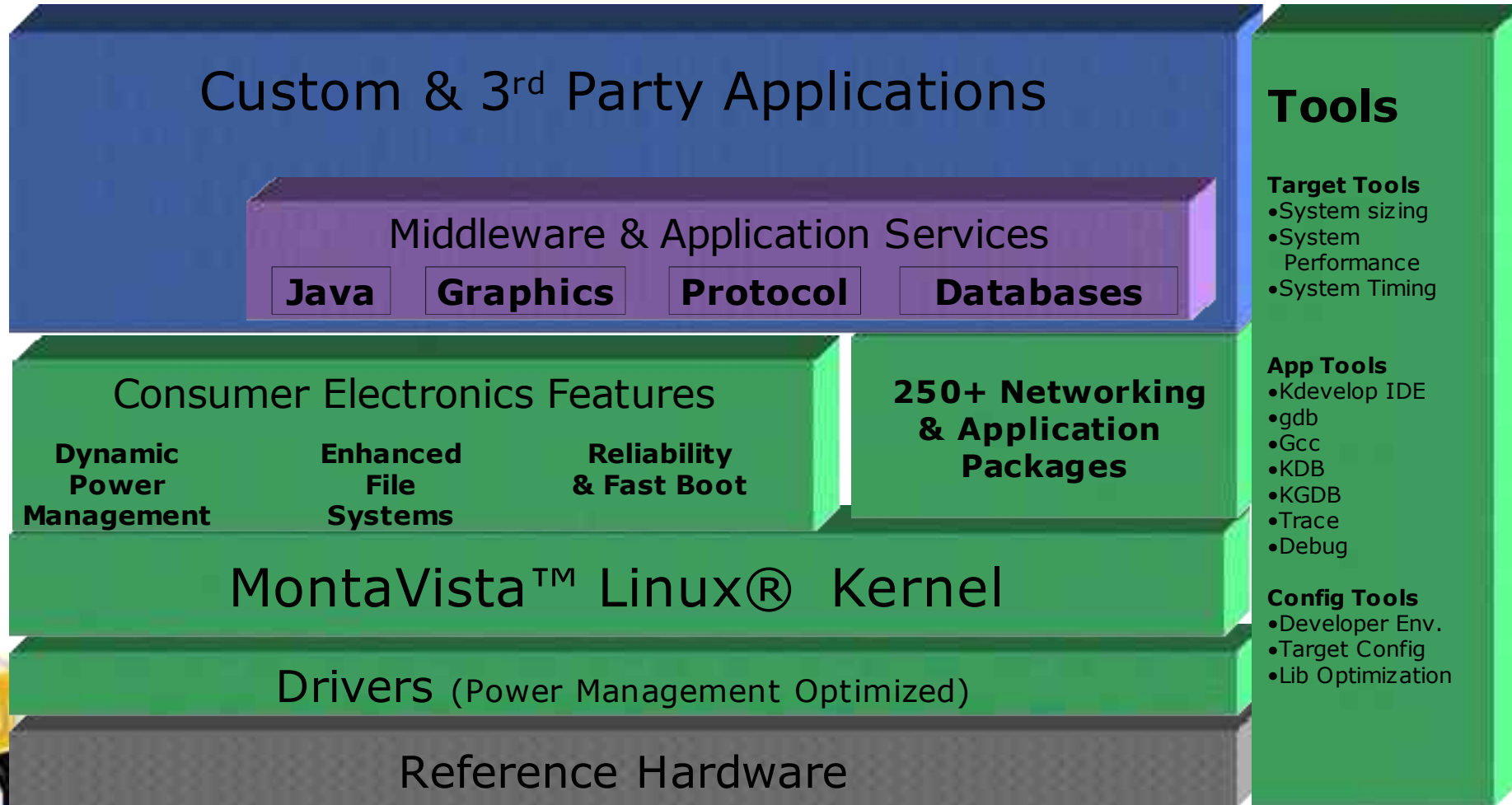


*The Embedded Linux Experts*



MONTAVISTA  
SOFTWARE

# Consumer Electronics Edition System Architecture



■ = Components of MontaVista™ Linux® Consumer Electronics Edition

# Graphics for Linux



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*



*The Embedded Linux Experts*



# Trolltech : e/QT or Qtopia

MONTAVISTA  
SOFTWARE

The screenshot displays a Linux desktop environment. On the left, a panel titled "Applications" contains icons for Calculator, Calendar, Contacts, Email, Help Browser, Image Viewer, Opera Browser, and System Info. The main desktop area features several windows: a file manager window showing a directory listing, a terminal window displaying a shell prompt and some output, and a Qt Designer window showing a graphical user interface design. The Qt Designer window has a title bar that reads "Qt DESIGNER" and "TROLLTECH".





# MontaVista Graphics

MONTAVISTA  
SOFTWARE

The screenshot displays the MontaVista Linux desktop environment. The main window is Wireshark, showing a network traffic capture. The interface includes a menu bar (File, Edit, View, Window, Help), a toolbar, and a sidebar with various toolbars and panels. The main pane shows a list of captured packets with columns for No., Time, Source, Destination, Protocol, Length, and Info. A packet list is visible, showing various protocols like TCP, UDP, and ICMP. A packet details pane is open, showing the structure of a selected packet. A terminal window is also visible, displaying system boot logs and network configuration details.

No.	Time	Source	Destination	Protocol	Length	Info
1	0.00000	dhcp45.westat.com	montavista.westat.com	...	...	...
2	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
3	0.00000	dhcp45.westat.com	montavista.westat.com	...	...	...
4	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
5	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
6	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
7	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
8	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
9	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
10	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
11	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
12	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
13	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
14	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
15	0.00000	montavista.westat.com	dhcp45.westat.com	...	...	...
16	0.00000	montavista.westat.com	montavista.westat.com	...	...	...



# Java and Embedded Linux:

*Made for Each Other*



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E

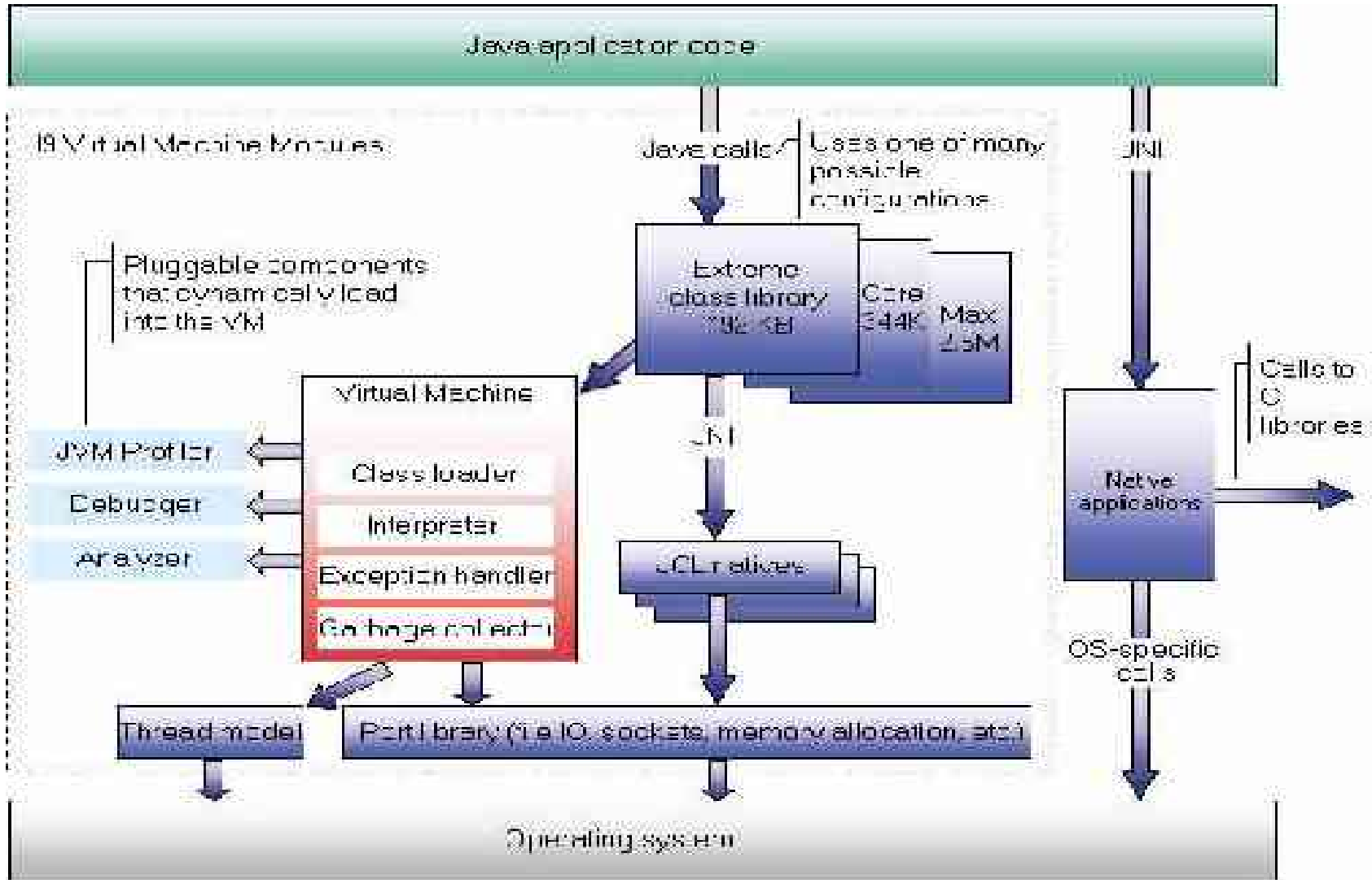


*The Embedded Linux Experts*



MONTAVISTA  
SOFTWARE

# IBM : Websphere + J9



# MontaVista Added Value



**MONTAVISTA**<sup>TM</sup>  
S O F T W A R E  
*Powering the Embedded Revolution*

*The Embedded Linux Experts*







# Risks with Roll-Your-Own Linux

MONTAVISTA  
SOFTWARE

Action	Risks
<b>Download code from dozens of sites, e.g,</b> 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
<b>Build usable native and cross development tools.</b> <del>Quality, obtain and apply useful / needed patches</del>	Tools, libraries, work together
<b>Build and bring up Linux kernel and drivers</b>	Kernel stability & Untested Drivers & most are IA32
<b>Configure thousands of options and correctly, optimally</b> populate target file system	Must hand-configure target system
<b>QA and test for your platform environment</b>	No standard Linux test environment. Must fully stress test for quality.
<b>Updates to existing build for bugs (esp security bugs) includes tracking and rebuilding environment</b>	Significant effort to “keep up” with 2000+ kernel emails per week. High exposure to miss a critical fix.
<b>Repeat for each new major Linux kernel release</b>	Fall behind and lose benefits of new features & HW support
<b>Repeat for each architecture/chip used in your organization</b>	Each architecture is unique – above process starts over





# MontaVista Benefits:

MONTAVISTA  
SOFTWARE

## Core OS & Tools Functionality

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



time-to-market



MONTAVISTA  
SOFTWARE

# 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	Higher quality & faster time-to-market
Support from Mailing Lists, Newsgroups	"Software Fab" Dedicated Support Engineers and Guaranteed Response Times, plus the	Reduced risk, faster development & time-to-
Documentation based on Man Pages &	MontaVista Zone Detailed Embedded Linux Deployment Guide and Board-specific documentation	market development & time-to-market
Training by various third-parties on enterprise	In-depth classes focused on key embedded topics: device drivers, high	Faster development & time-to-market
Artistic GPL code	availability, jump-start, etc. Warranty against defects and license	Reduced risk &

No Warranty

indemnification

liabilities





# MERCI – GRACIAS - THANKS

MONTAVISTA  
SOFTWARE



<http://www.mvista.com>

Tel :33 (0)1.30.16.28.28

@mail : **[pdarcq@mvista.com](mailto:pdarcq@mvista.com)**

Tel :33 (0)1.30.16.28.01 direct

Gsm : 33 (0) 6.11.47.09.49

