

The background features a light blue and white grid pattern. Overlaid on this are four overlapping circles. The circles on the left are light blue with a fine grid. The circle on the right is larger and contains a colorful, multi-colored grid pattern with vertical bands of yellow, blue, and purple.

# ***Wireless Communications and Computing Group Update***

***Ron Smith :: Senior Vice President and General Manager  
Wireless Communications and Computing Group***

2003 Intel Spring Analyst Meeting







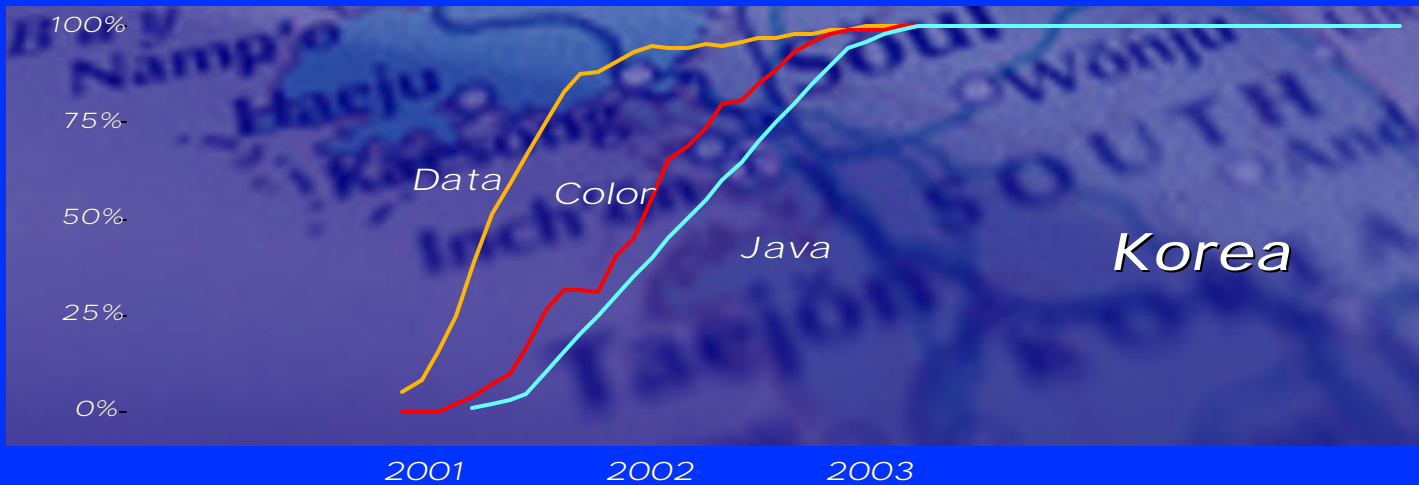
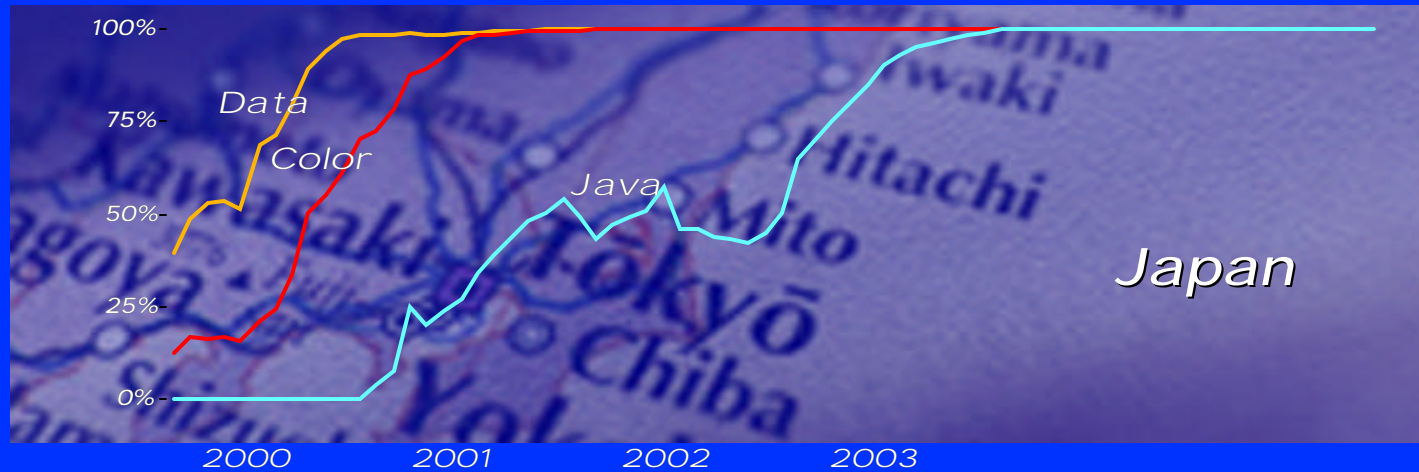
# *Agenda*

*Environment*

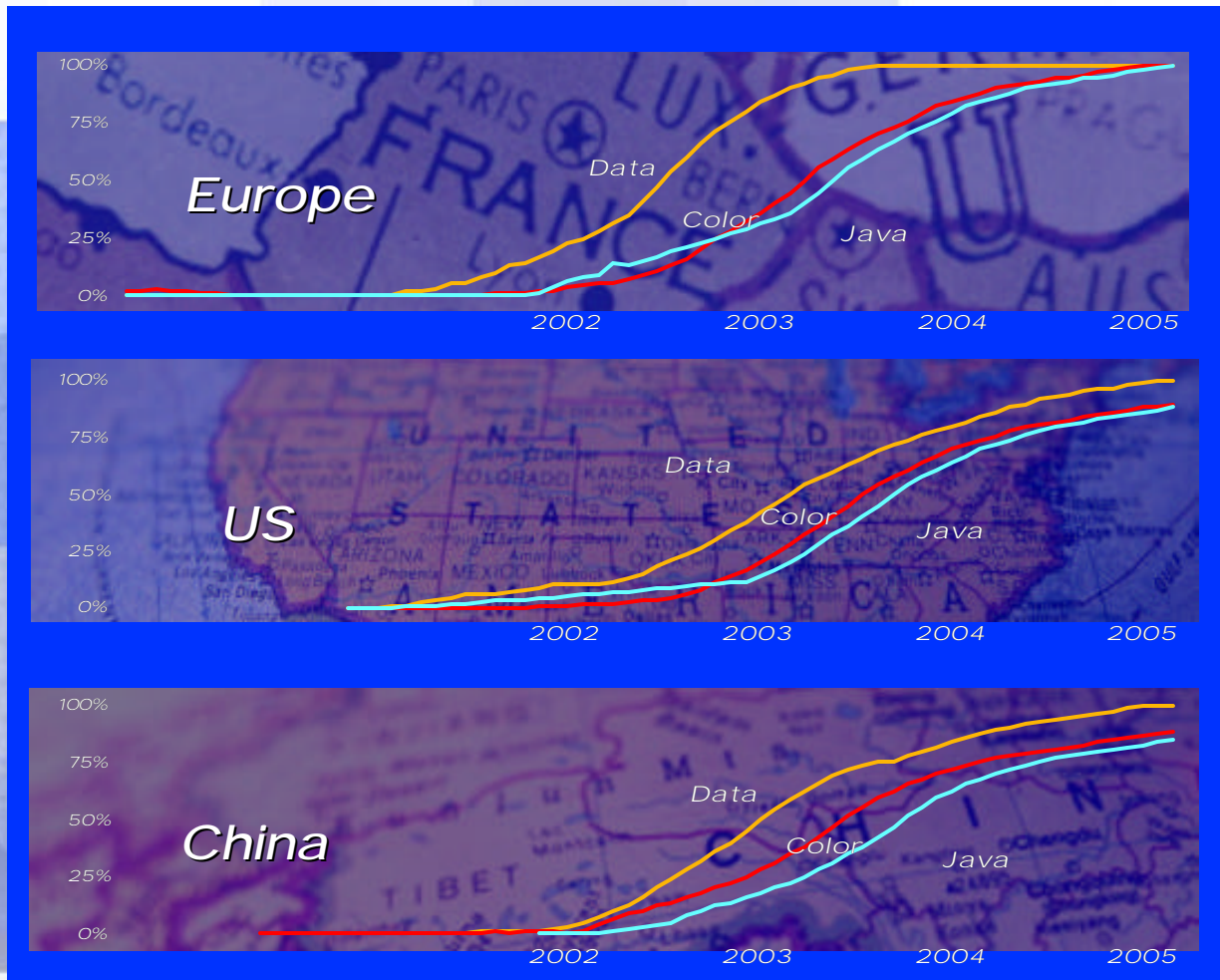
*Products, Progress and Plans*

# Data Coming to Cell Phones

## Adoption Rates



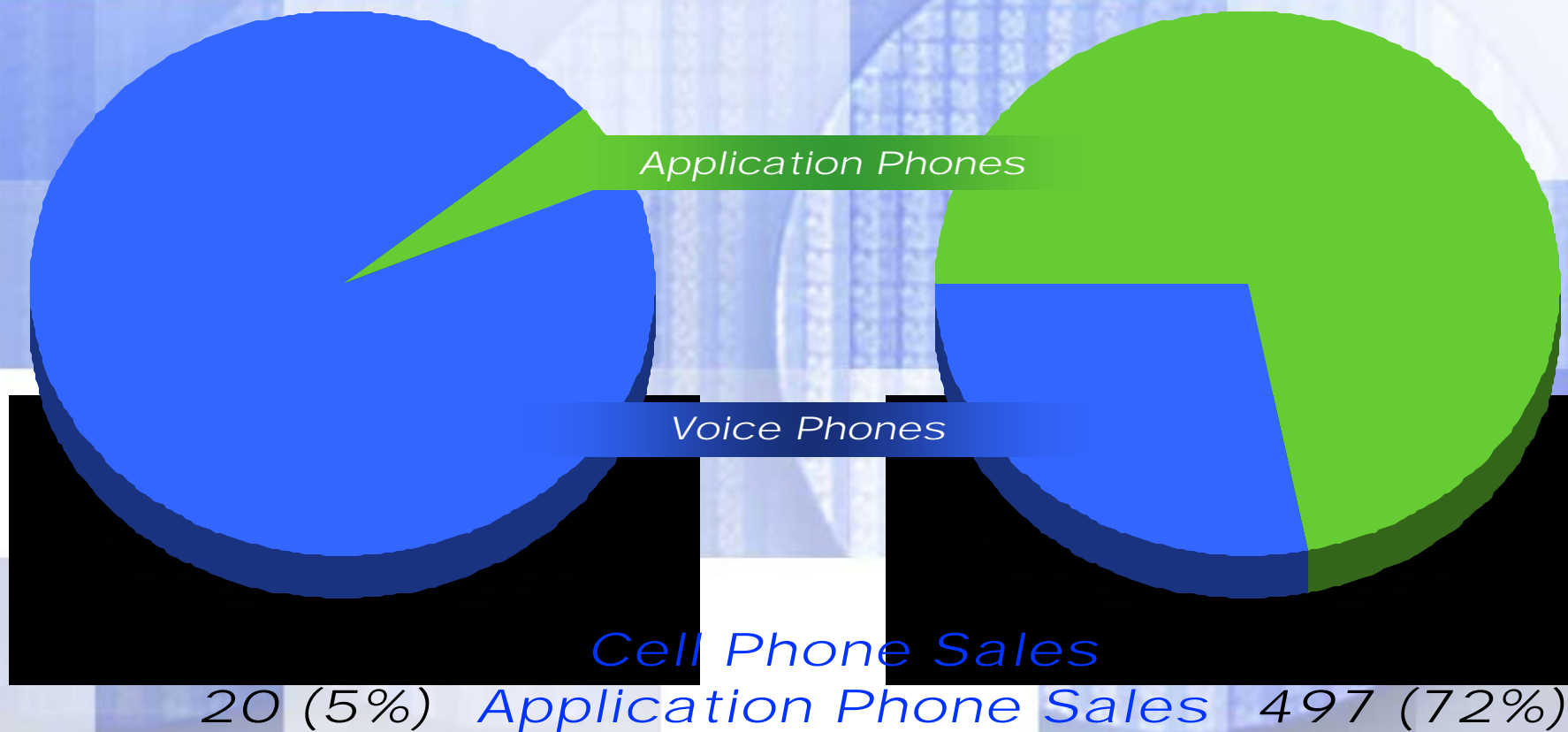
# And it is Worldwide Adoption Rates



# Growth of Data Cell Phones

2002

2005





# *Strategy*

*Leading Cores*

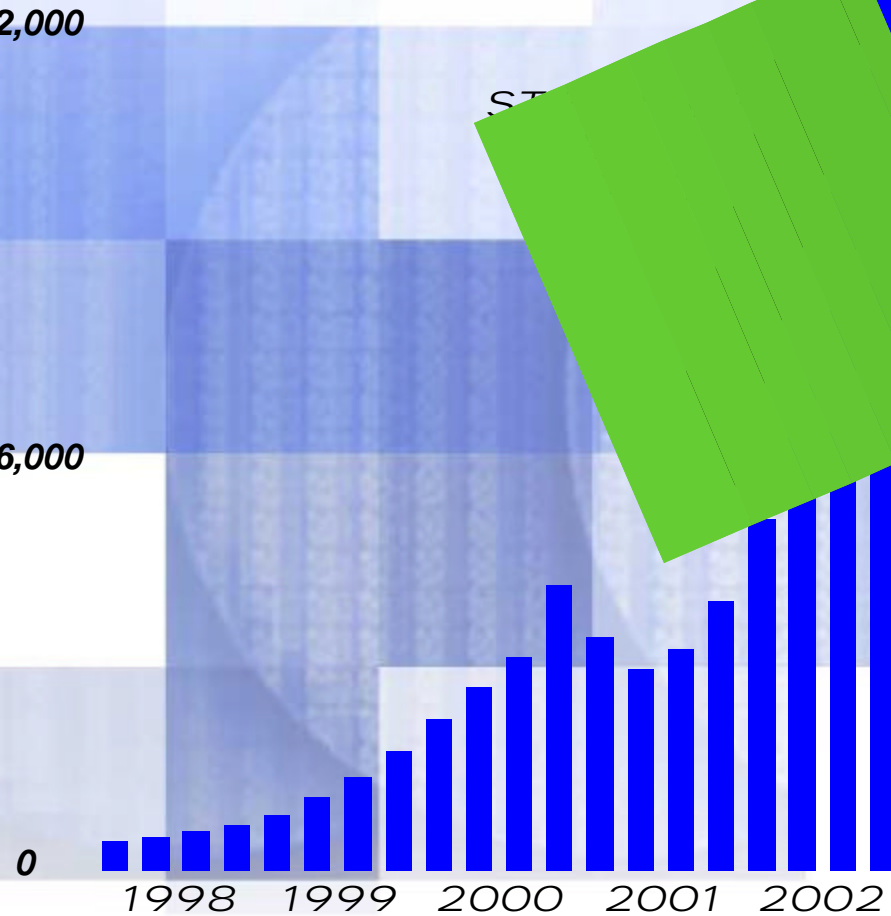
*Integration*

*Full Solution*

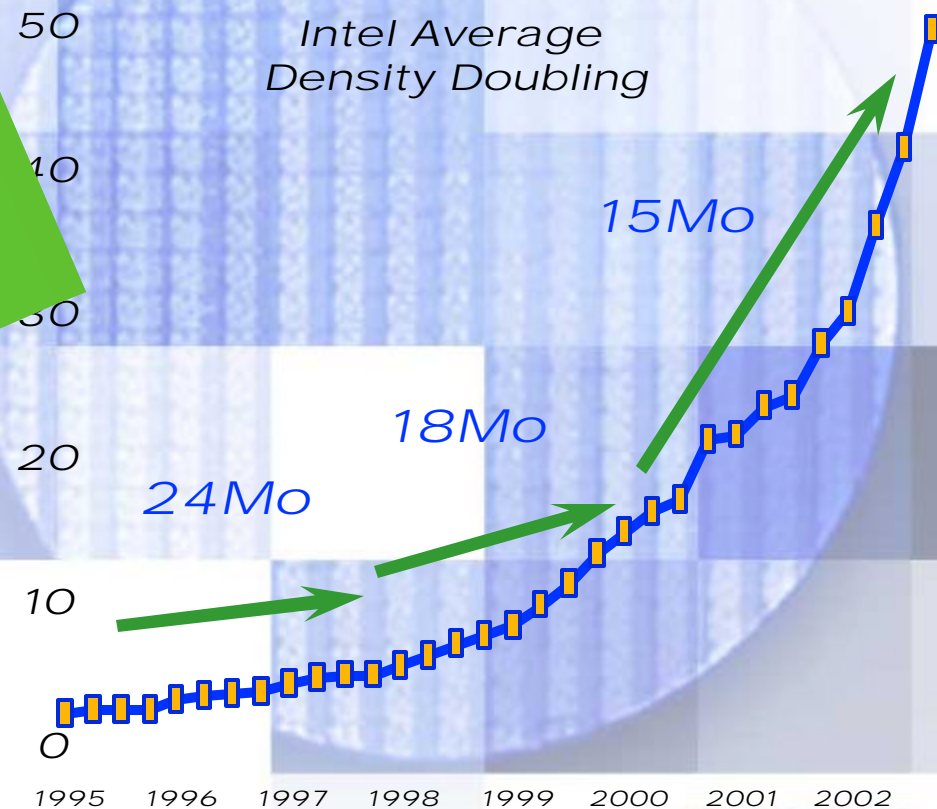
# Flash Mbits Accelerating

its (MMb)

Industry Flash Mb TAM



Intel Flash Shipments





# *Last Quarter*

*Q1'03 sales down*

*Seasonality*

*Migration to new products*

*Pricing*

*Doing what is needed to  
maintain and win new business*

*Already signed multiple new Flash agreements*

*Winning back business on new products*

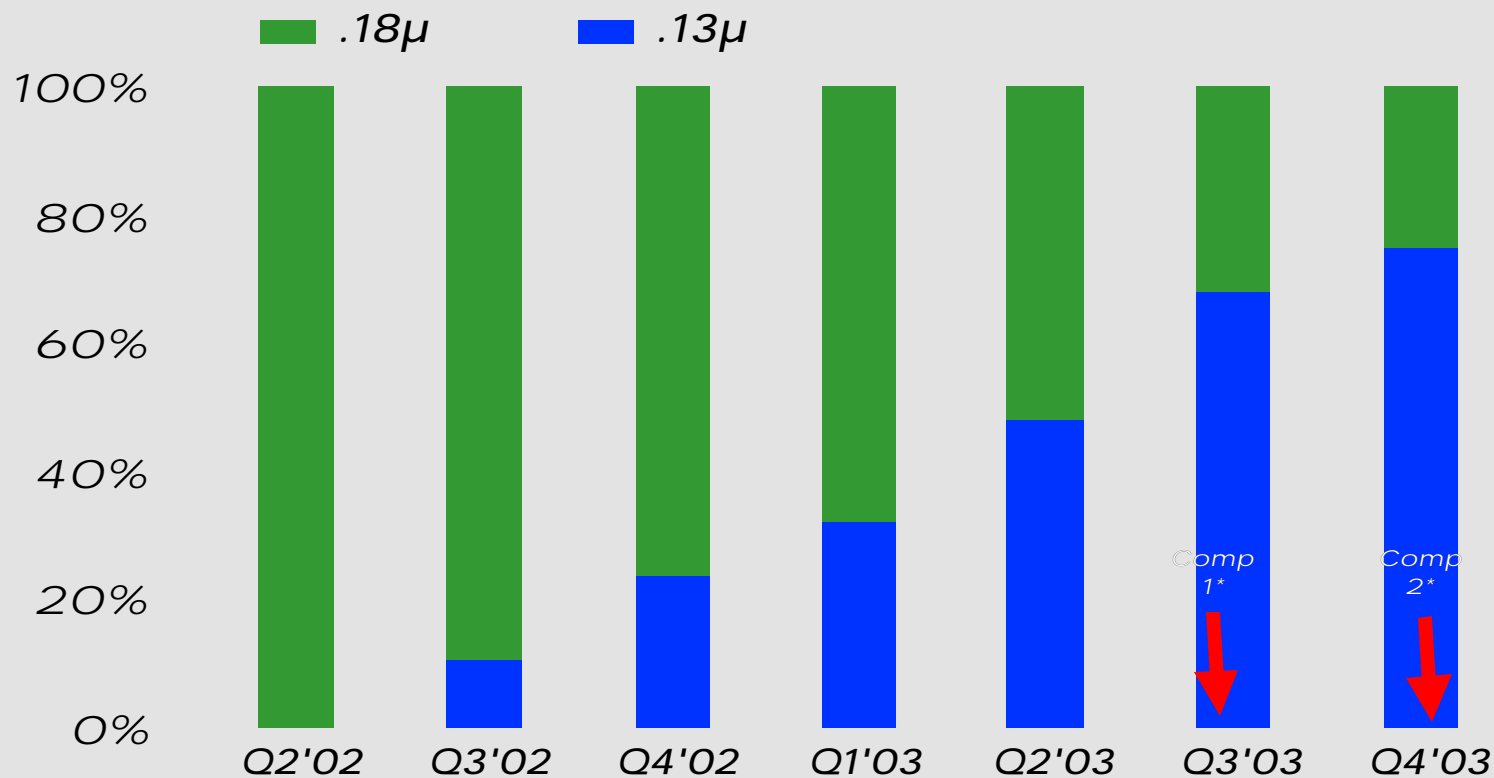
# *Extending Our Leadership*

*Growing through leading  
products and  
manufacturing technology*

*Extend lead in higher  
density Flash solutions*

# Flash Leadership

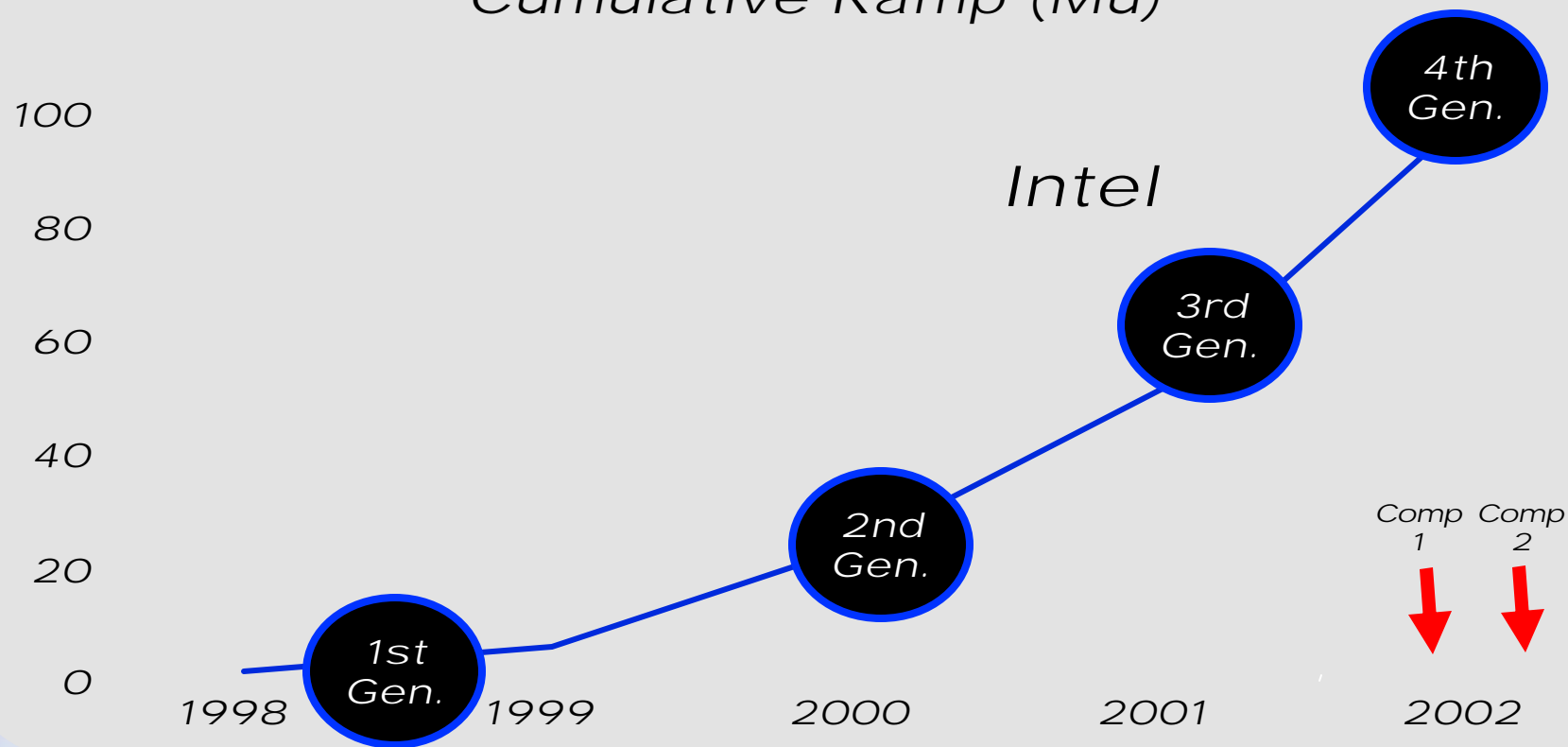
## Transition to .13μ





# Flash Leadership

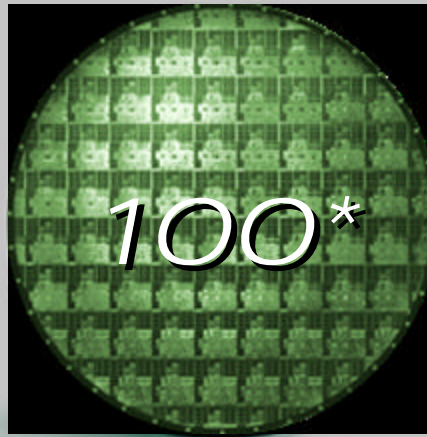
Multi-Level Cell  
Cumulative Ramp (Mu)



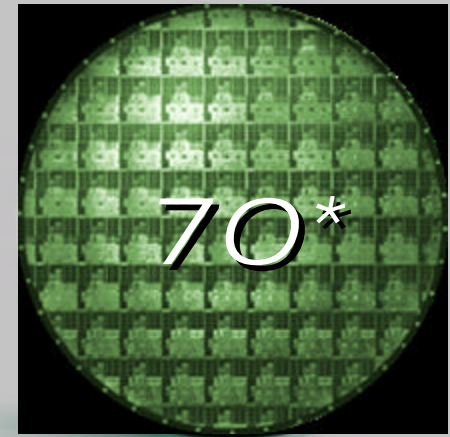
# One Generation Ahead



Intel  
2bits/cell  
0.13 $\mu$



Competitor  
2 bit per cell  
.23 $\mu$

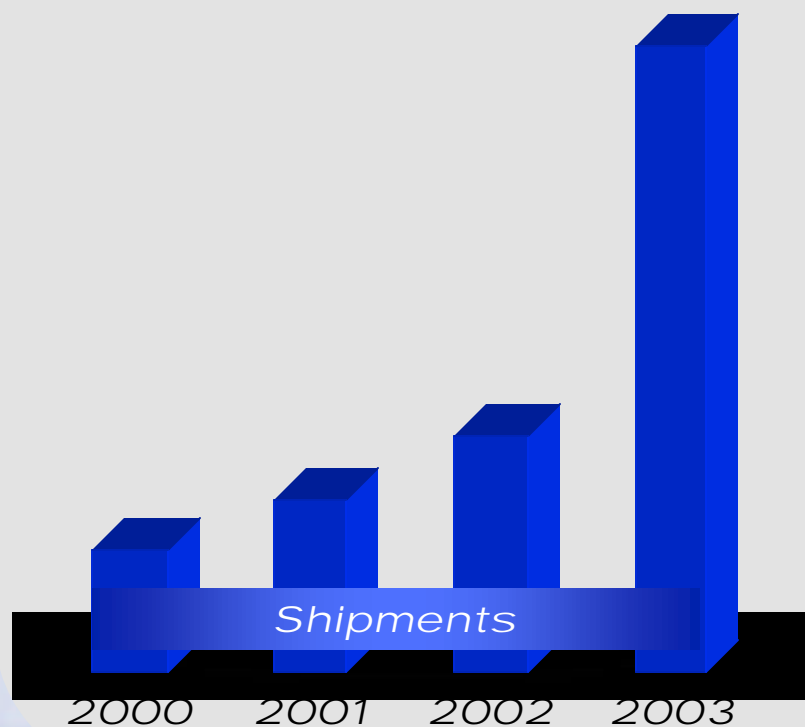


Competitor  
1 bit per cell  
.18 $\mu$

# Applications Processor

Intel® XScale™ Microarchitecture Processors

## Intel Apps Processor Shipments



Power /  
Performance leader

Microprocessor Report  
Analysts' Choice Award

PDA Momentum

# 1 Pocket PC, #1 Linux,

Won Palm

Intel's Total PDA Market  
Segment\*

0% MSS 2000

25% end of 2002

35% end of Q1'03



\*Source: IDC



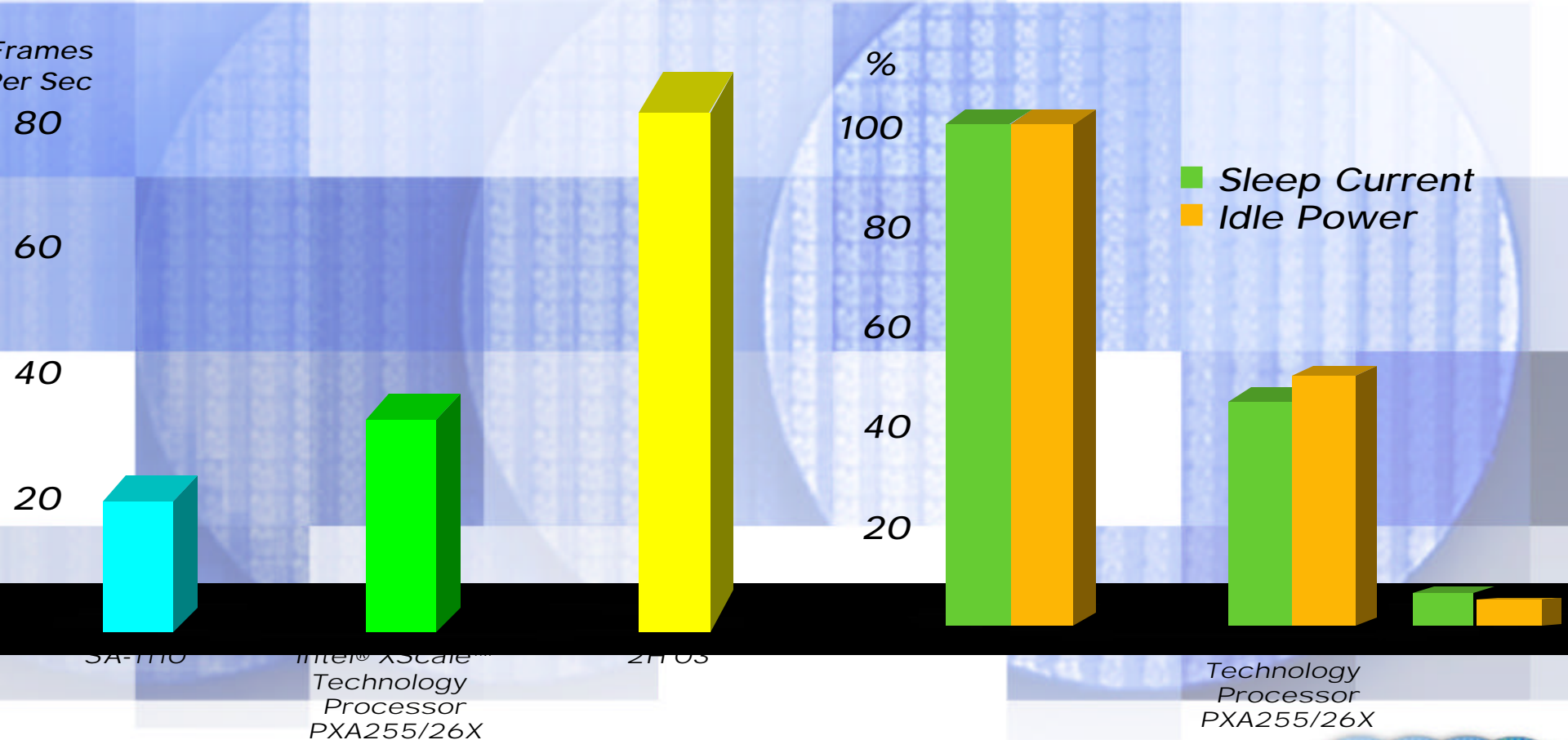


# Intel® XScale™ Microarchitecture

## Performance and Low Power Leadership

MPEG-4 Decode

Lower Power



Source: Intel Corporation using MPEG-4 decode sample code for the Intel® Integrated Performance Primitives for MPEG-4 decode. Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance.



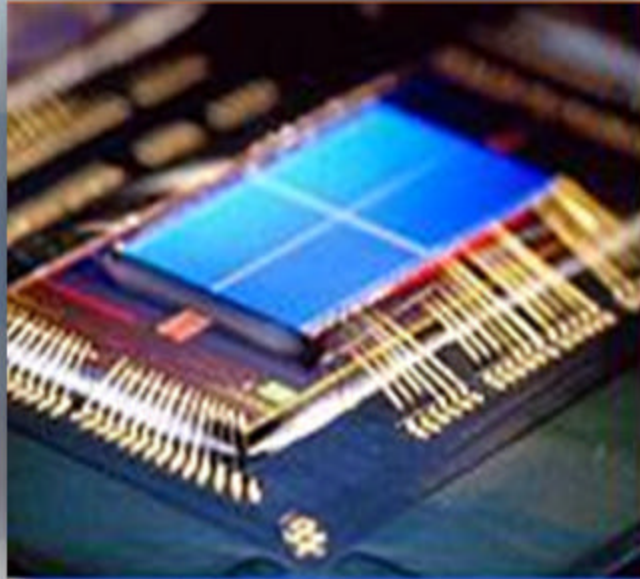
# Moving Into Cell Phones



*Leading Cores  
Leading Integration*



# *Integration Stacking*

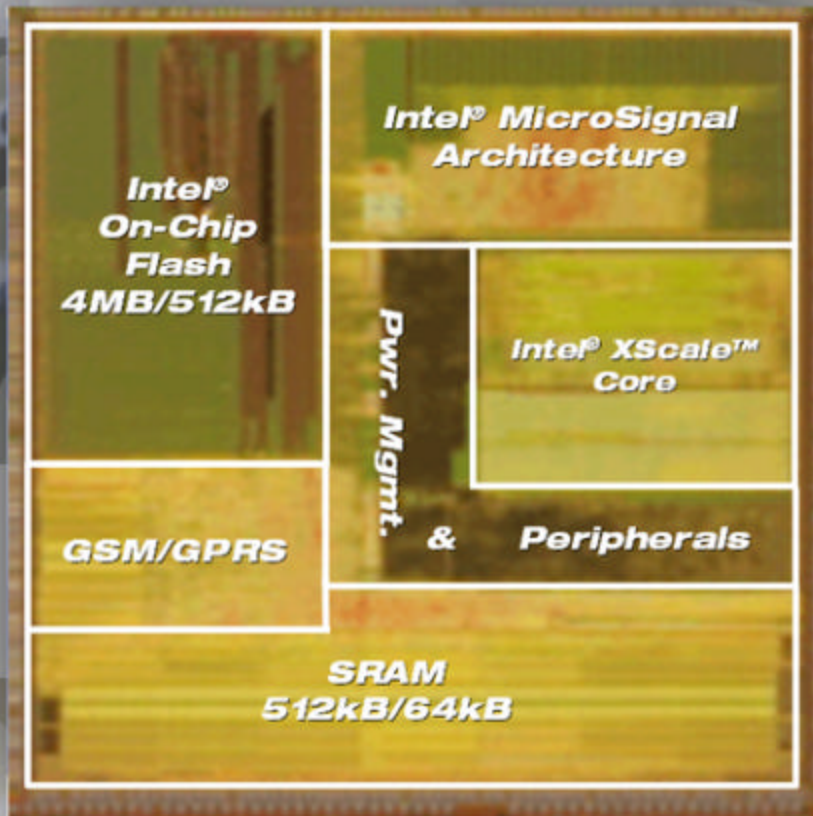


*Intel is #1 at Stacking  
Over 100M Units Shipped*



# Wireless-Internet-On-A-Chip

## Intel® PXA800F Cellular Processor



Industry's 1<sup>st</sup> single-chip  
GSM/GPRS solution

# Complete Solution for Communications

## Capabilities

*>10 Years Delivering Cellular Chipsets*

*Validated Protocol Stack*

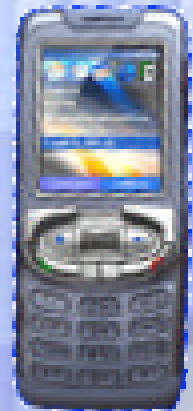
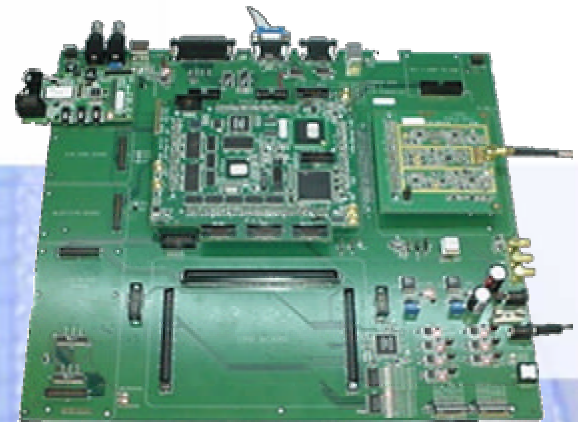
*GSM/GPRS Class 8 and 12*

*Intel® MicroSignal Architecture runs  
EDGE without a co-processor*

## Tools

*Development Kit*

*Phone Reference Designs*



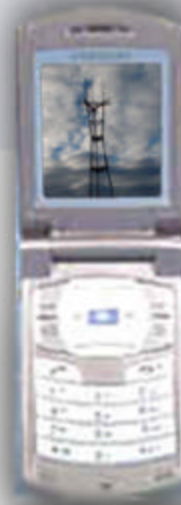


# Strong Phone Momentum



**Motorola Inc., unveiled a handset last week that uses one of Intel's microprocessor chips to control the computing functions.**

**Wall Street Journal 2/17/03**





# Future Advancements

Today

GSM/GPRS

400MHz

PXA262

PXA800F

2004

UMTS

Wireless MMX™

Higher Flash  
Density

Higher  
Frequency

3+ Die Stacking

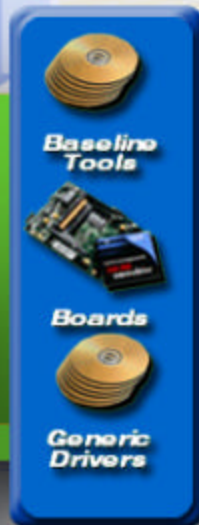
3G Product

# Intel® PCA



# Intel® PCA Development Ecosystem

Development Tools



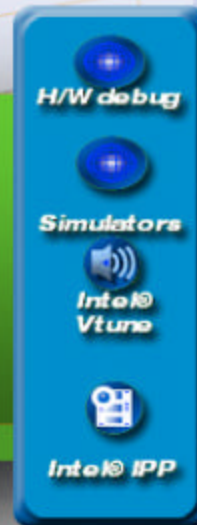
OSV  
Optimizations,  
Drivers,  
BSPs, tools

Operating Systems /  
Middleware



Intel®  
Middleware  
and Tools  
Enablement

Application  
Development Tools

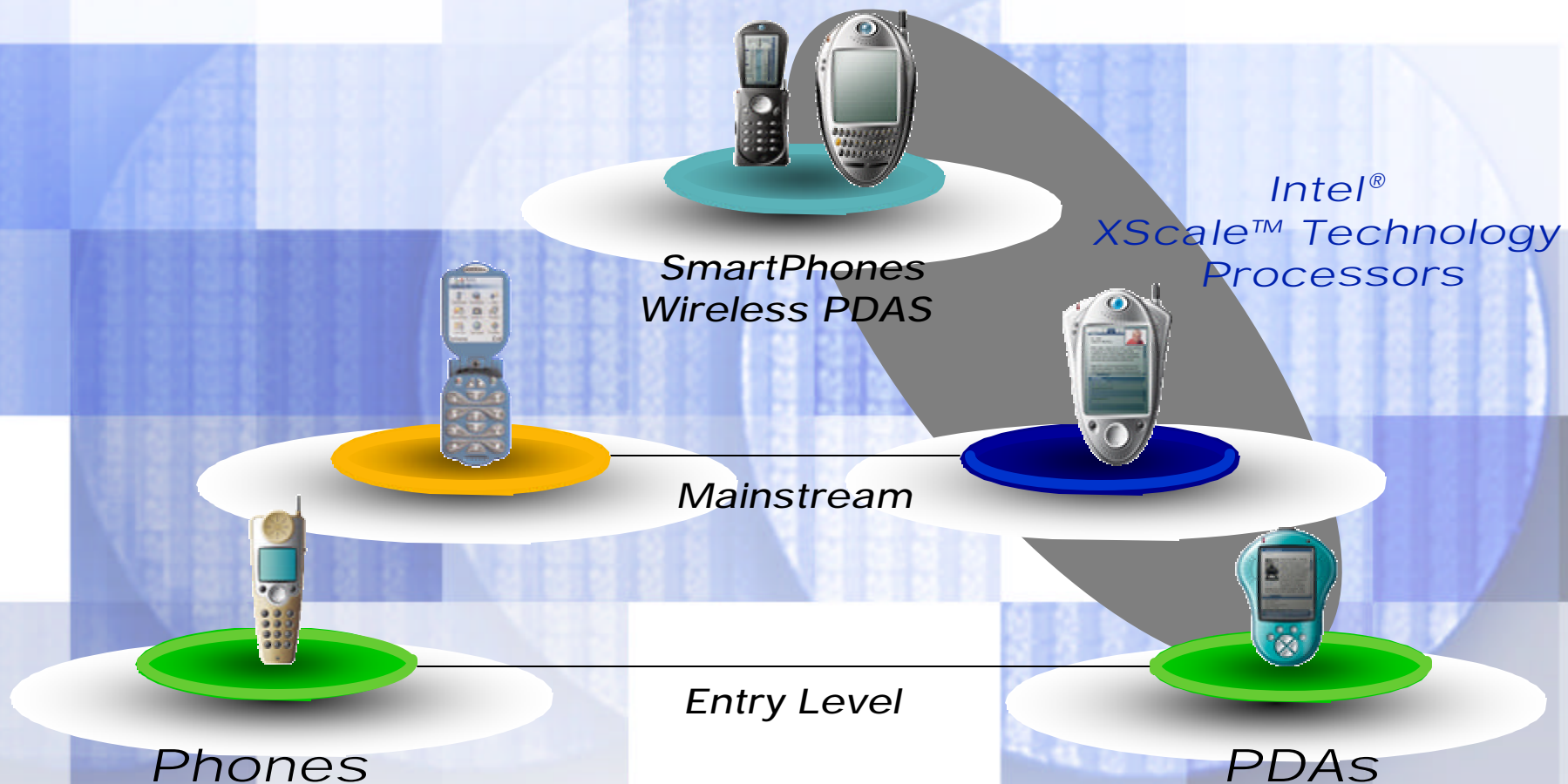


# Intel Product Breadth





# Intel Product Breadth



# Intel Product Breadth

Intel®  
Stacked  
Processors



SmartPhones  
Wireless PDAs

Intel®  
XScale™ Technology  
Processors



Mainstream



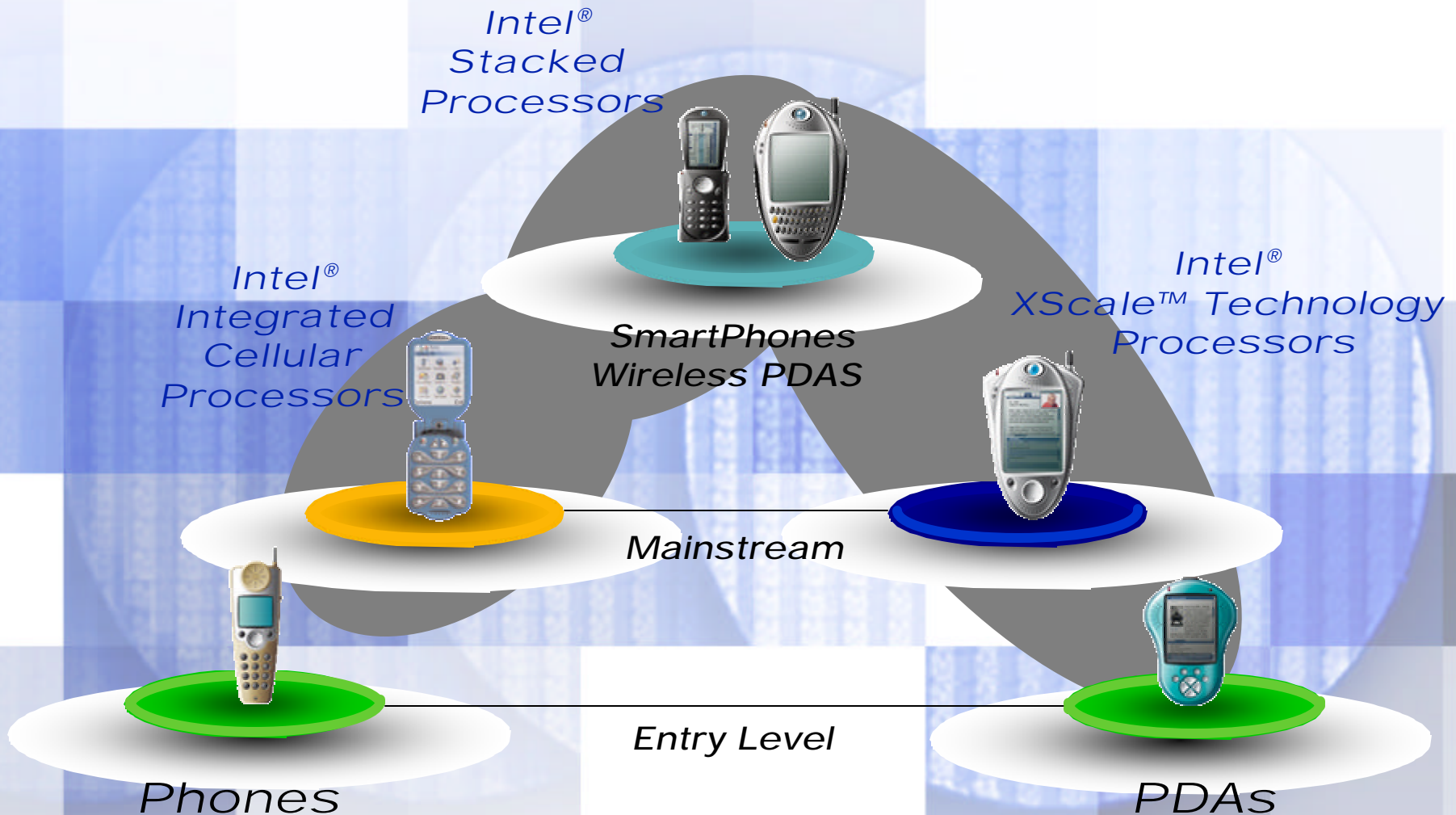
Phones

Entry Level



PDAs

# Intel Product Breadth



# *Summary*

*Move to data is underway*

*Winning through the transition  
with leading cores, integration  
and full solution*



intel®

Source: Intel Corporation using MPEG-4 decode sample code for the Intel® Integrated Performance Primitives for MPEG-4 decode.

Test Configuration: For MPEG-4 decode: PPC2002 OS; Intel SA-1110, Intel PXA250, Intel PXA26x results were measured on devices running PPC2002 with 240x320 16-bit display; future offering results measured with 480x640 16-bit display. Intel SA-1110 results measured on HP iPaq\* 3650 device. Intel PXA250 and Intel PXA26x results measured on Intel DBPXA250 test platform at 400 MHz, respectively. Future offering results are estimates only measured on a test platform at 400 MHz. Results shown are average of three runs. For sleep and idle current: Intel SA-1110, Intel PXA250, Intel PXA26x results were measured on Intel DBPXA250 test platform at 206 MHz, 200 MHz, and 200 MHz, respectively. Future offering idle and sleep are estimates only and not verified on actual silicon. Power is based on processor core estimates only and not other components in the system. Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance.