

AdvancedTCA®

Ed Dylag

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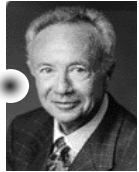


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Serving Embedded Market Segments since 1972

1976 | 1993 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006

Intel enters
Embedded
Market Segment



Andy Grove
delivers inaugural
keynote at 1st
Embedded Systems
Conference

Intel shipped first
Intel386™
embedded processor



Intel shipped first
Intel® Pentium®
Processor
for embedded



Intel introduces 1st
Network Processor

Intel creates its 1st
embedded ecosystem
Program

Intel enables Low
Voltage Intel® Xeon®
processor family for
embedded



Intel exceeds \$.5B in
embedded revenue

Intel launches its
1st southbridge
product designed for
embedded



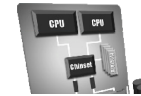
Intel launches
Intel®
Communications
Alliance

Intel launches
1st AdvancedTCA
products



Intel exceeds \$1B in
embedded revenue

Intel launches 1st
dual core processor
for embedded



Intel launches 1st
integrated chipset
for embedded

Intel created
world's first known
bi-endian capable
compiler

Intel created first
embedded graphics
driver suite – Intel®
IEGD



Market Segment demands



*Increasing demand for
higher performance*

*Datacenter power and
cooling limitations
Harsh environment*

Content Processing: What next?



- Web Services to grow from \$100B to \$250B by '08²
- Virus attacks up 48% in '05¹
- 74% of financial losses due to security breaches³
- XML traffic to reach 48% of all network traffic by '10⁴

Internet

1990

1995

2000

2005

2010



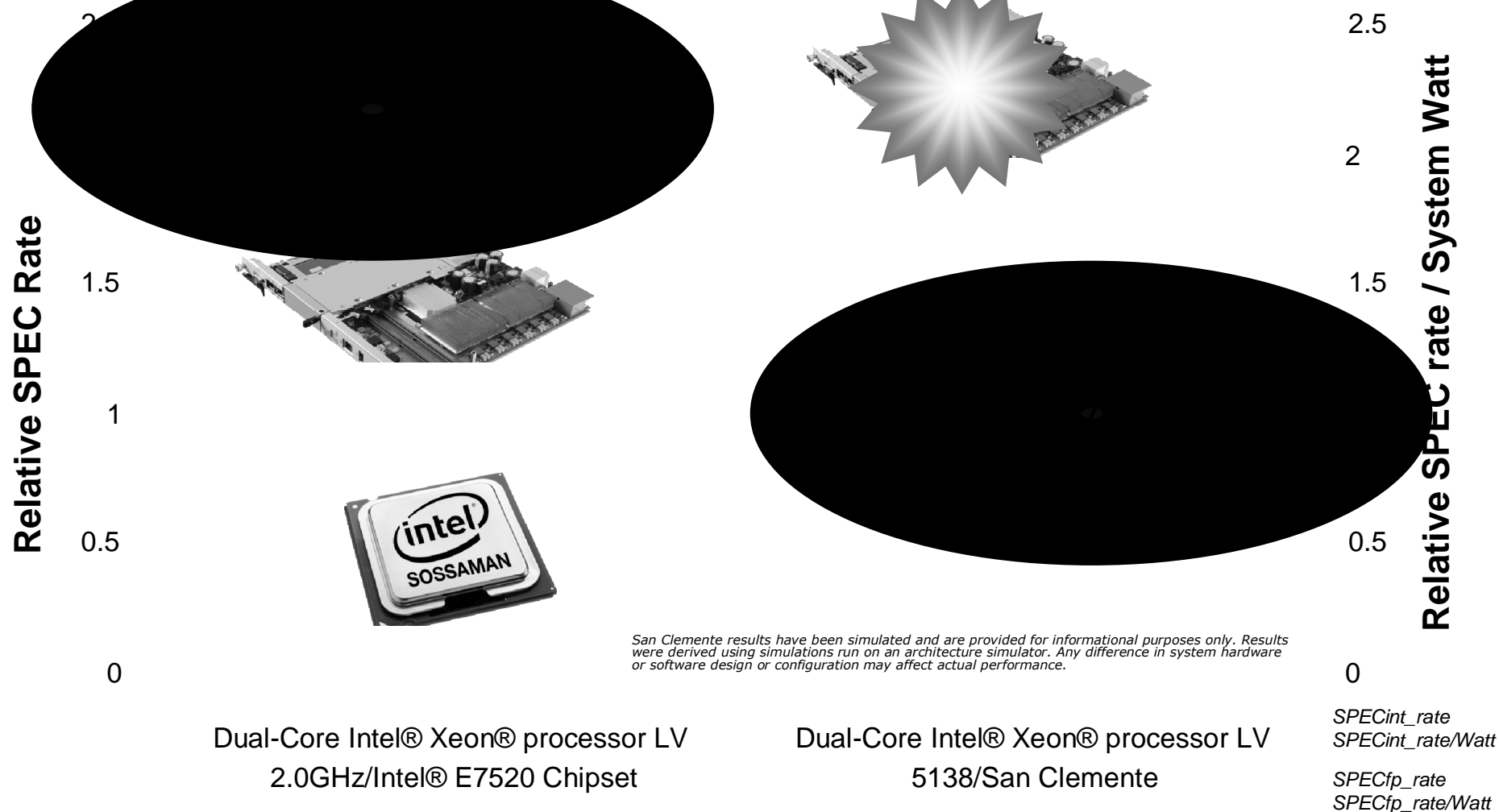
¹ Source: Sophos Security Threat management report 2005
³ CSI's '2006 Computer Crime & Security Survey' Gartner 2005

² 04 Zapthink-High Perf & Appliance Approaches for XML & model assumptions
⁴

Thermal Density: Can AdvancedTCA® Meet Performance Demands?



AdvancedTCA® 200W Platform Envelope



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. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit [Intel Performance Benchmark Limitations](http://www.intel.com/performance/resources/limits.htm) (<http://www.intel.com/performance/resources/limits.htm>).



Modularity Evolution



Standards Investment Platform definition



Open Modular
Computing Specifications



**What's Your
Modular Strategy?**

2000 – '03

Lead customer adoption Ecosystem evolution



**Modularity in
the Network**

2004 – '05

Deployments Scaling Rapid Growth



Gaming

Messaging



Entertainment

Siemens RNCi

Nortel's VSE Platform



Modular Works

2006 – '07



Barriers to Growth

- **Multidimensional Open Industry Standards support “all” applications**
 - Only a subset may be needed for a specific application
- **Too many optional requirements and options**
 - Confusion and fragmentation
- **Inconsistent interpretations of mandatory requirements**
 - No objective, consistent criteria for conformance or certification
- **Limited overall system view**
 - Low confidence in Platform Interoperability

Aligning with TEM requirements



Interoperability



Delivering Solutions

**SCOPE* + CP-TA* + MCP Solutions Labs
REMOVING THE BARRIERS**

Summary



AdvancedTCA® broadly accepted by communications market segment

Market segment trends require processor performance and efficiency

AdvancedTCA® meets these processing demands for rugged environments

Intel and other category leaders continue to invest in AdvancedTCA®

Can AdvancedTCA® go “mainstream” (At maybe)



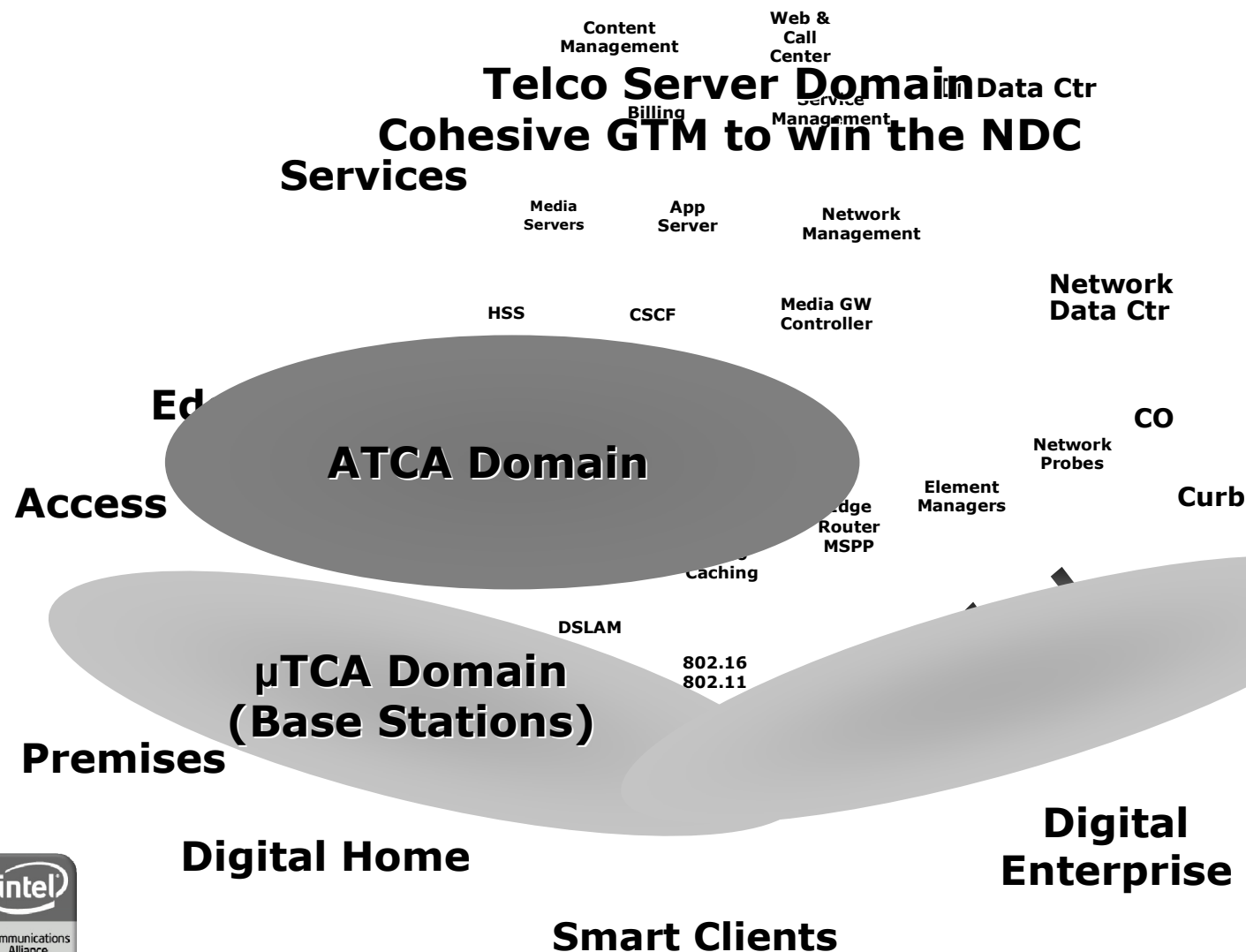
**For more information visit:
www.intel.com/go/atca**



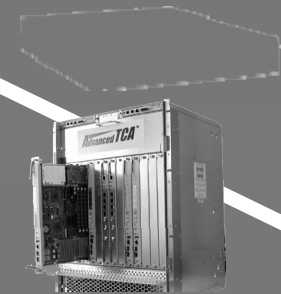


Backup

Modular Communications Platforms (MCP) to Win the Network Infrastructure



**SHV Server/Blades
CG RMS
For Server centric**



**ATCA*
Common Platform
For I/O & Compute**

**uTCA*/ATCA300
*
Derivative stds
Enable ICA**

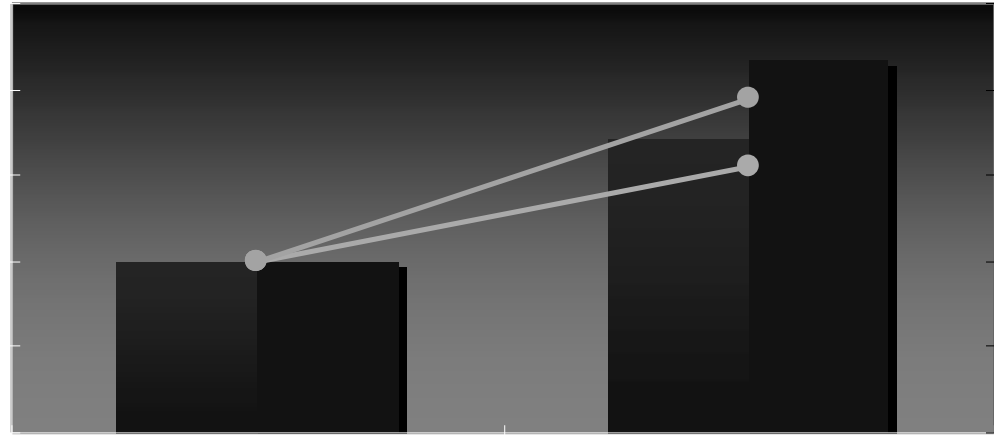


Increasing Performance Density in AdvancedTCA* SBC (Thermal Density: Foil 12)



Excellent system performance/watt progression from Dual Core Intel® Xeon® Processor LV 2.0GHz (Sossaman) with Intel® E7520 chipset (Lindenhurst)

San Clemente delivers performance similar to Intel® 5000V and 5000P, with better system performance/watt



San Clemente results have been simulated and are provided for informational purposes only. Results were derived using simulations run on an architecture simulator. Any difference in system hardware or software design or configuration may affect actual performance.

SPECint_rate
SPECint_rate/Watt
SPECfp_rate
SPECfp_rate/Watt

Crown King increase integer performance by ~70% and Perf/watt by 54%

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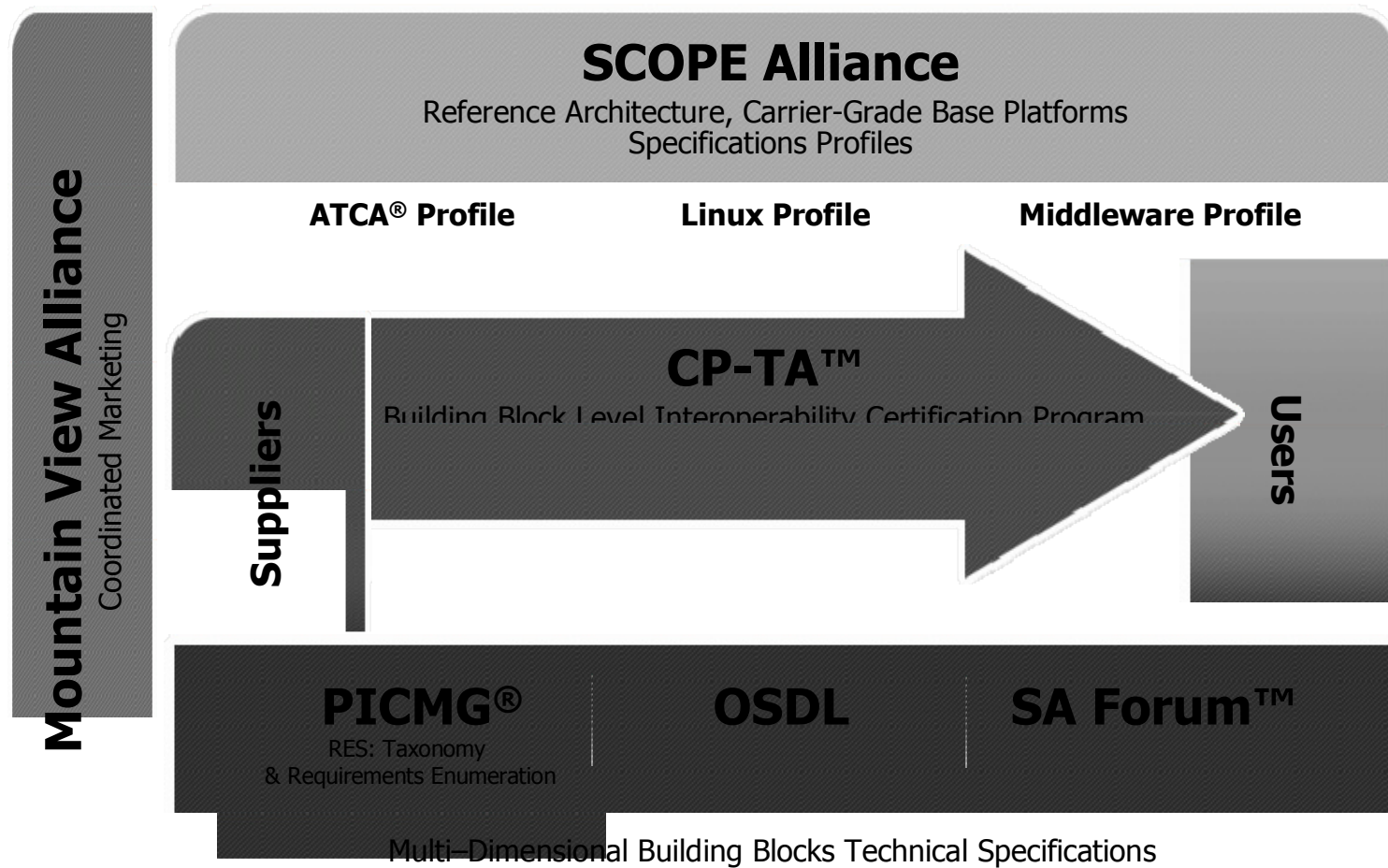


Maximizing Performance Density

**Multicore
Integration
Thermal Density
Content Processing**

De

Industry Landscape



Source: Communications Platforms Trade Association (CP-TA)



Accelerating a Standards-based IP Network

Fourth Generation of ATCA* Building Blocks

Processor Performance and Efficiency