

VIVANTE

World's Smallest OpenGL ES 2.0 Silicon

Introduction to Vivante Graphics Processor IP

Khronos DevU - December 2009

Silicon Proven in the Marketplace

Vivante GPUs to ship in tier one consumer products four key market segments



**Smart Phone
&
Mobile
Gaming**

**Digital Picture
Frame
MID
Netbook**

**Home
Entertainment**

Embedded





VIVANTE

World's Smallest OpenGL ES 2.0 GPU

Technology Leader in GPU IP Delivers 2x Advantages

- Most efficient solution
 - 2x Performance per mm²
 - Support 1080HD and higher
- 30+ Licensees
 - Silicon proven in multiple applications



smaller

faster

cooler

30+
Licensees

Vivante Marketplace



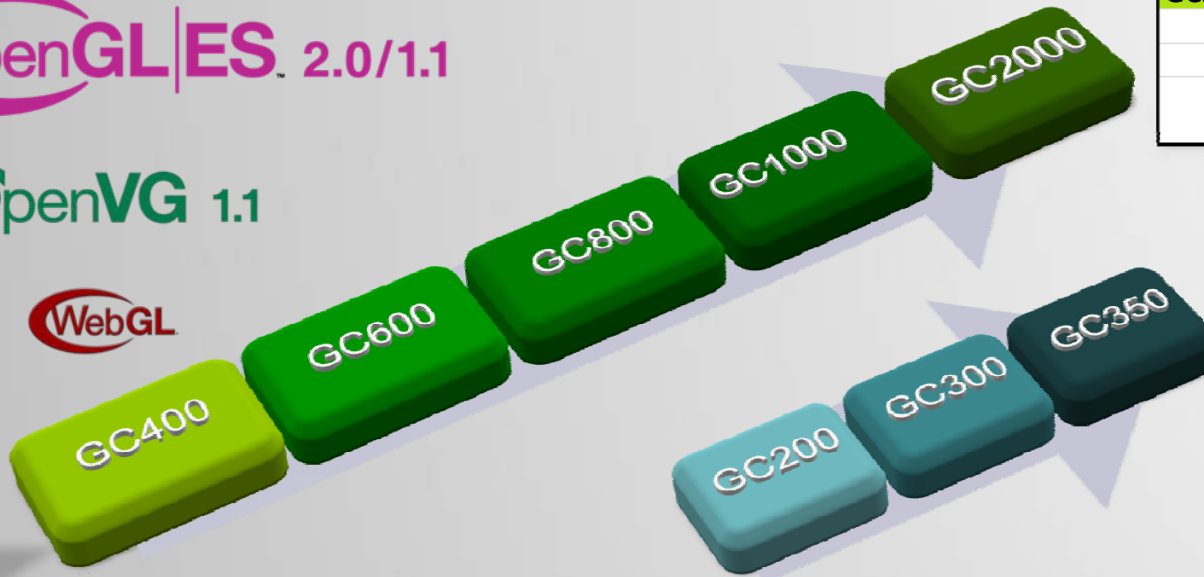
OpenGL ES 2.0/1.1

OpenVG 1.1



WebGL

GC2000 in 65LP
500 MHz
100 Mtri/s
1.0 Gpix/s
18 GFLOPS

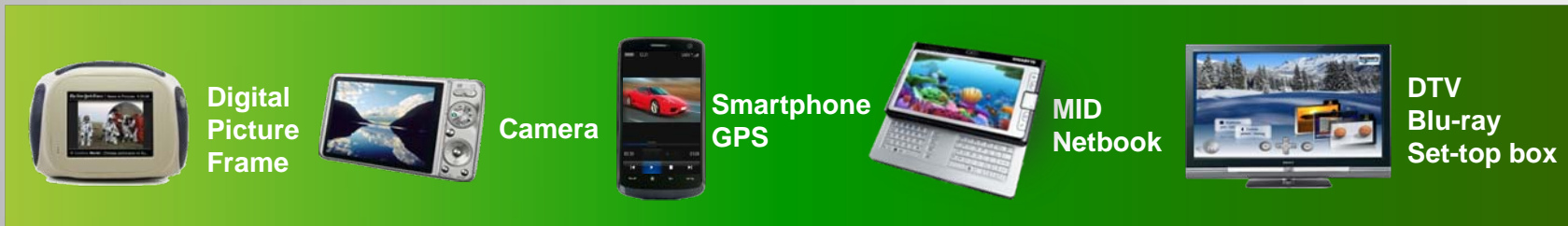


GC400 in 65LP
2.5 mm ² silicon
49 mW active
13 Mtri/s
125 Mpix/s

OpenVG 1.1

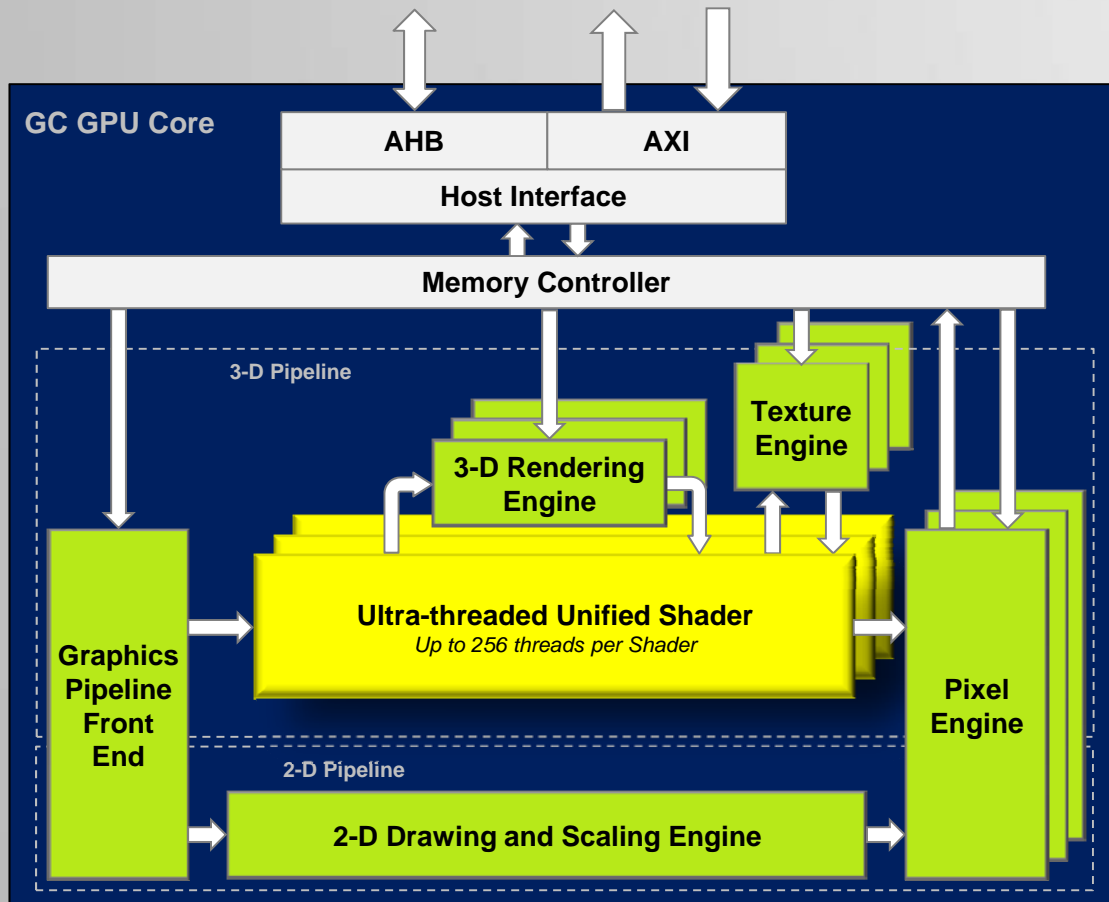


CAMERA * MOBILE PHONE * NAVIGATION * PRINTER * AUTOMOTIVE * NETBOOK * MID * SET-TOP BOX * HDTV * MOBILE GAMING



Vivante Differentiation

ScalarMorphic™ Architecture



Multiple dimensions of scalability for optimal cost/area/power balance

**Unified shaders
Scalable multicore design**

Hyper-threading virtually eliminates latency effects

**Simple integration
Low bus bandwidth**

**Produces a small area,
high performance**



Complete Graphics Solution

Hardware / Software / Ecosystem

Applications
GUI, Gaming, Navigation

Adobe
Flash Light 3 Player
(OpenVG 1.1)



Adobe
Flash 10.1 Player
(OpenGL ES 2.0)



Vivante Development Kit

OpenGL|ES 2.0/1.1

OpenVG 1.1

COLLADA

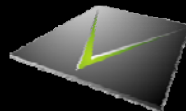
DirectFB

GDI



OpenCL

Vivante Hardware Access Layer



VIVANTE

VShade

Rapidly prototype and optimize shader programs

VEmulate

Develop OpenGL ES 1.1 / 2.0 and embedded applications using PC graphics cards

VProfile

Visually analyze performance of applications and graphics pipeline

Vivante Differentiation



Innovative Algorithms, Architecture, Design

- Smallest OpenGL ES 2.0 silicon solution available
- High precision – “desktop” image quality
- Highly efficient graphics pipelines, scalable architecture
- Extreme latency tolerance, intelligent bandwidth management

smaller *faster* *cooler*



Extensive Development Ecosystem

- Comprehensive OS and API support
- Powerful development suite
- Excellent application support
- Wide network of development partners

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- **In Japan, Vivante cores are licensed through VeriSilicon**
 - **Local interface, fast response**
 - **Effective technical support in all stages of the project**
 - **Enquiries to:**
 - Email: japan-sales@verisilicon.com**
 - Tel: 03 3507 3005**

