Shuttle Roadmap

Motherboard Products

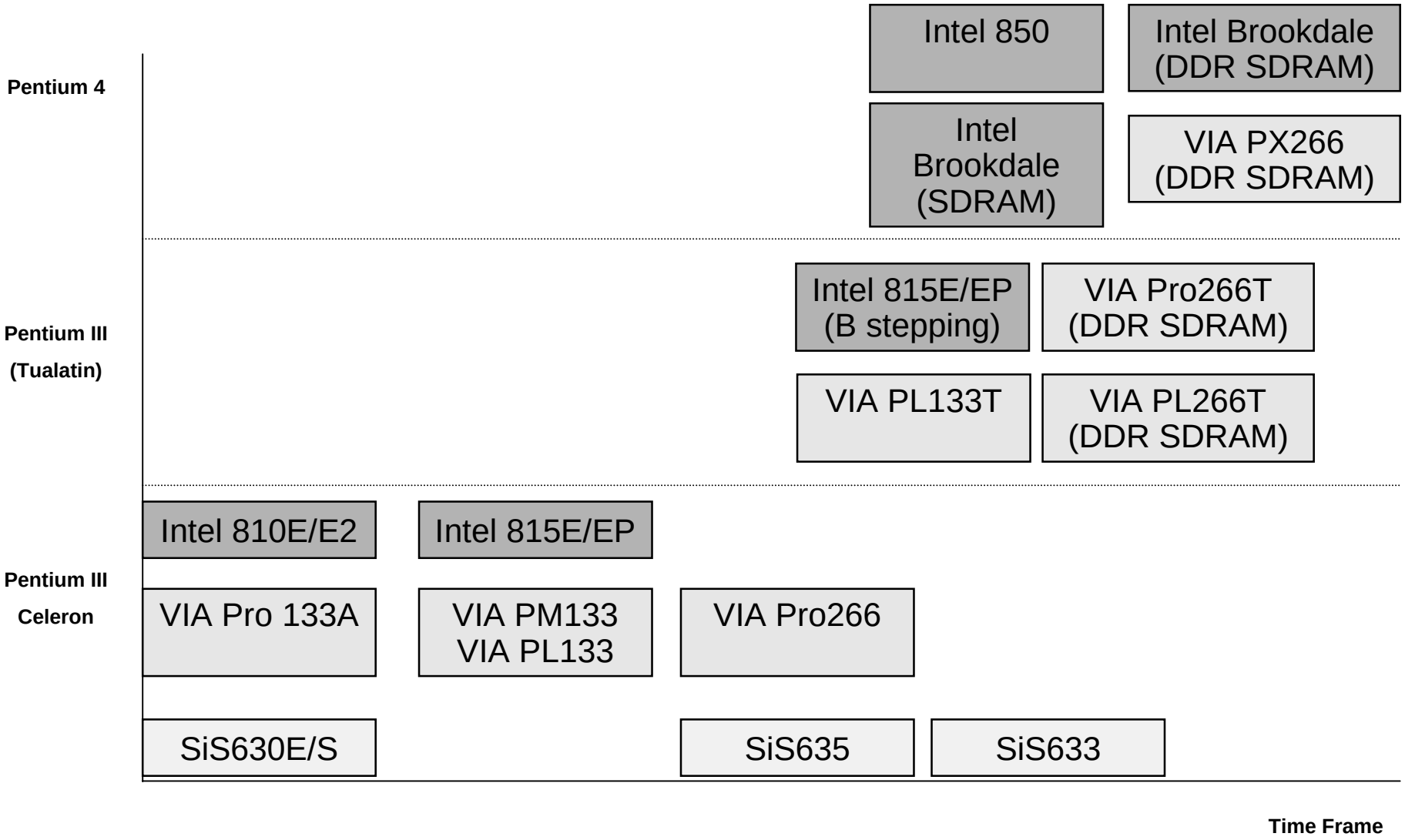
VGA Products

April 2001

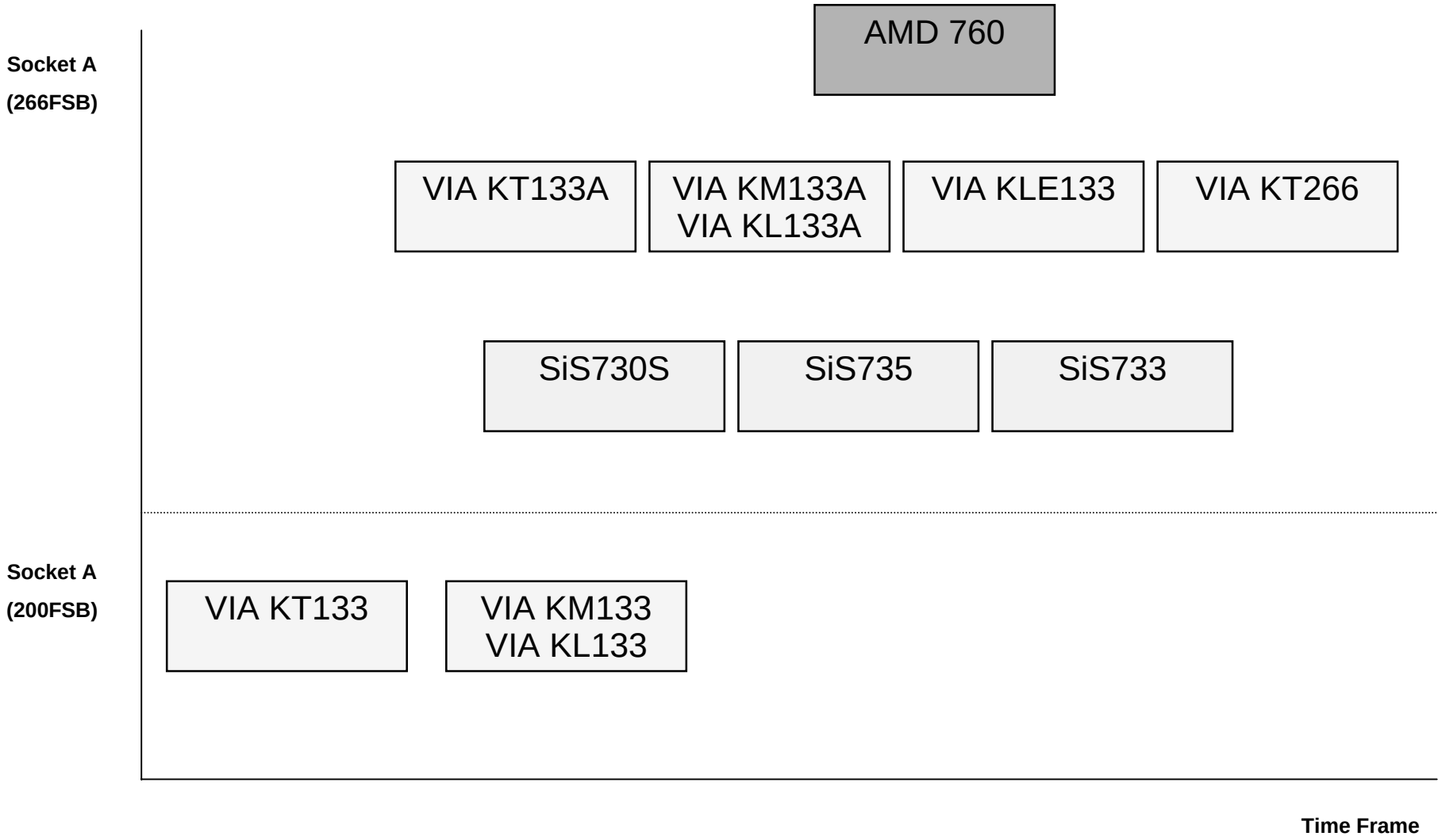
Agenda

- Intel CPU v.s. Chipset
- AMD CPU v.s. Chipset
- Shuttle Solution
  - New Socket 370 Product
  - AMD Series
  - Legacy Product
- VGA Chipset
- Shuttle Solution
- Backup
  - Product summary

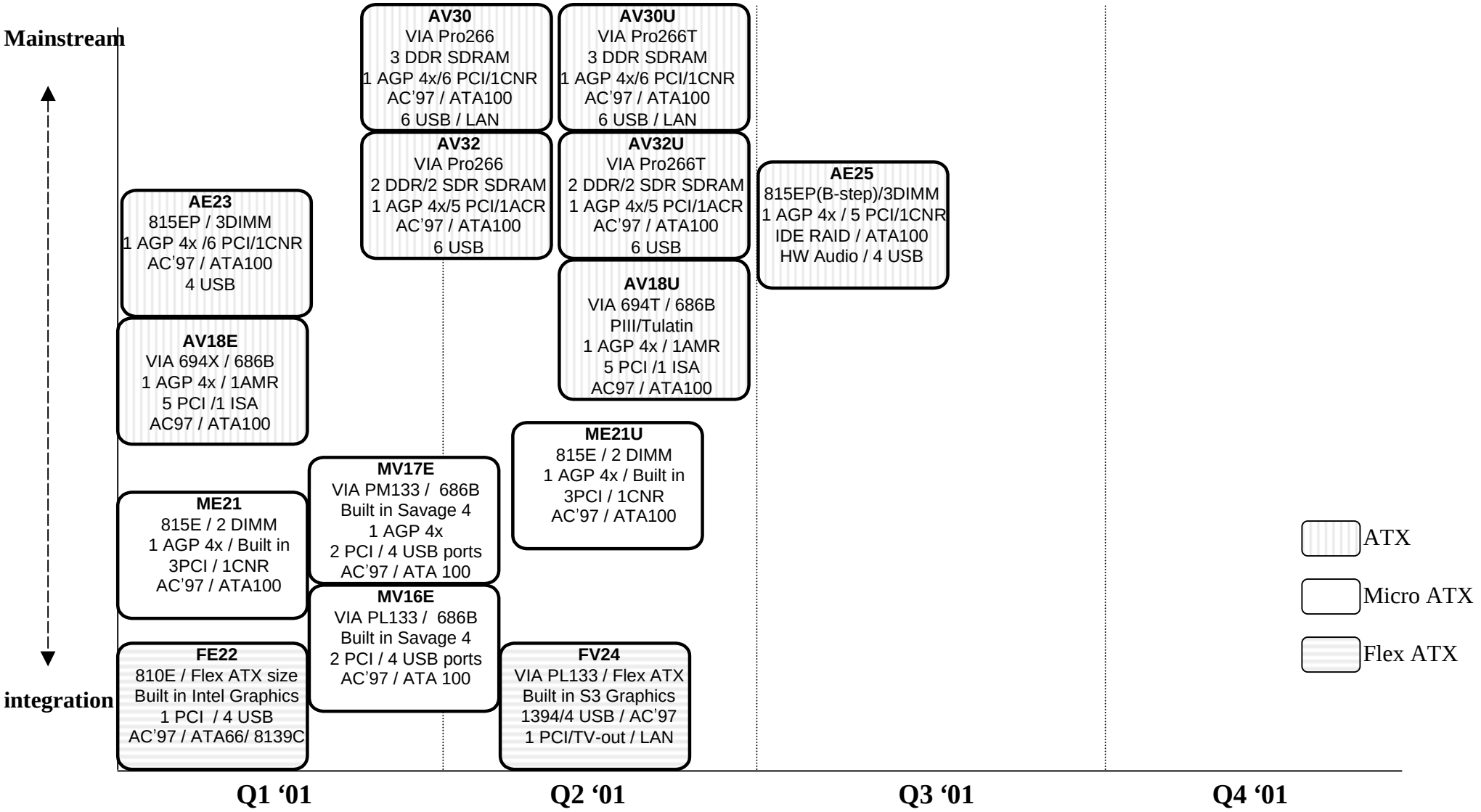
Intel CPU v.s. Chipsets



AMD CPU v.s. Chipset



New Socket 370 Product



New Socket 370 Product

Socekt370 / Intel Solano Chipset

ME21 is a MicroATX mainboard equipped with 815E chipsets and supports 1 AGP / 3PCI / 1CNR / ATA100 / 2DIMM / built in graphics engine / 4USB ports
AE22 is the ATX version of ME21 with same features, but 6PCI and 3DIMM.
AE23 equipped with 815EP chipsets has same features like AE22, but no built in graphics engine. COM 2 port is placed back to I/O port on back panel which will be more suitable for channel market.
AE25 is the successor of AE23 and uses the B-stepping of 815EP chipsets to support both New Pentium III (Tualatin) CPU and Legacy Pentium III and Celeron. It also equipped with ATA100 IDE RAID and Hardware Audio controller to provide a better performance platform.

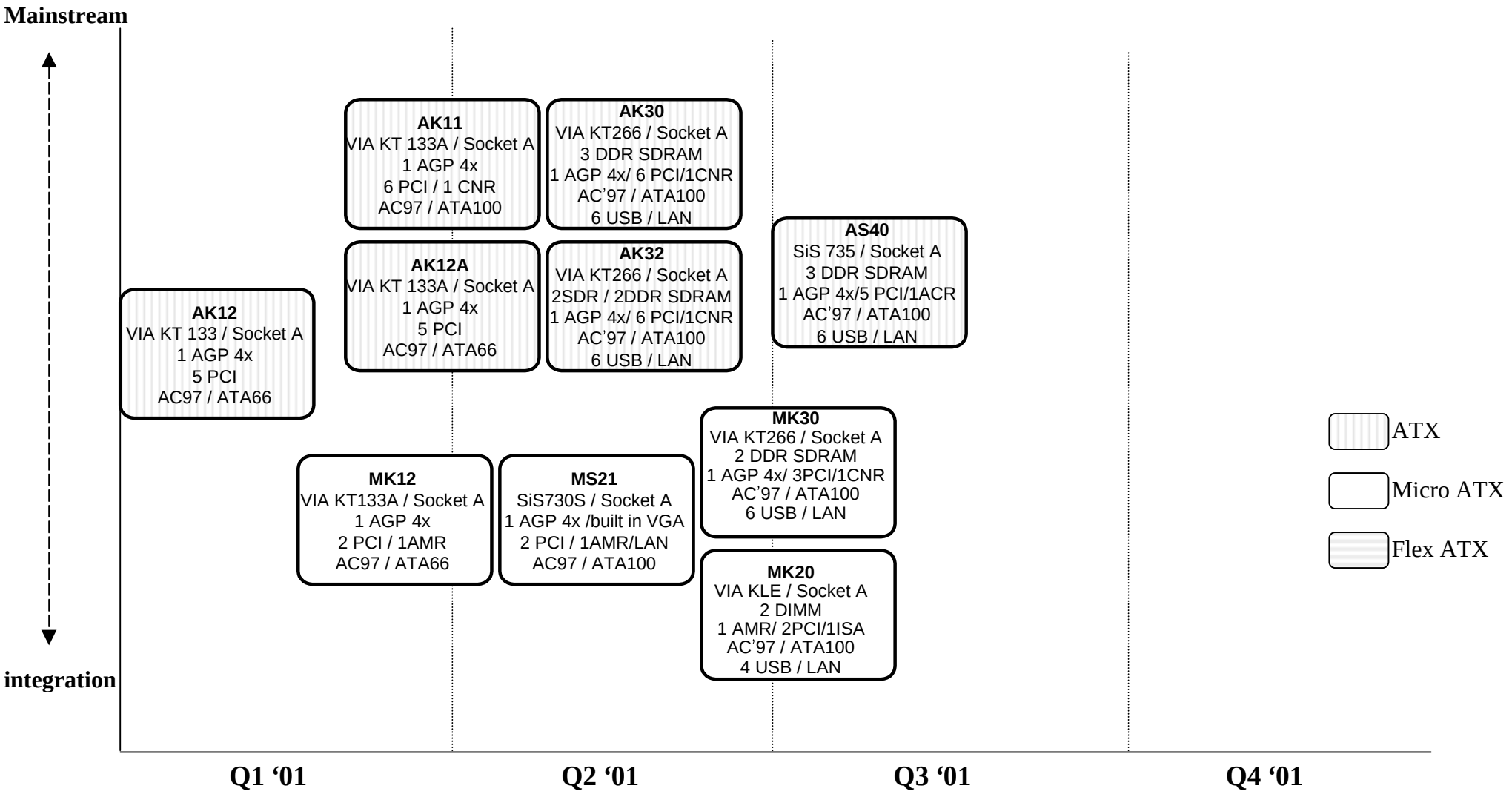
Socket370 / VIA Chipset / ATX-Format

AV18E is same designed as AV18, but equipped 686B south bridge instead of 686A, so that it may support ATA100 interface.
AV30/AV32 both use VIA Pro266 chipsets. The most difference is **AV30** supports 3 DDR DIMM and **AV32** supports 2 DDR DIMM and 2 SDR DIMM.

Socket370 / Flex-ATX-Format

FE22 is a FlexATX board and measures 17x17cm, only. It features built in graphics incl. 4 MB Z-Buffer with VGA and Flat Panel connector, integrated Realtek 8139C 10/100M Ethernet controller, AC'97 audio, and 1 PCI.
FV24 is a proprietary designed for special FATX chassis. It support TV-out (optional), 4 USB ports, 1394,10/100 Ethernet, proprietary modem riser and 1 PCI function in a compact size.

AMD Series (Socket A)



AMD Series (Socket A)

Socket A

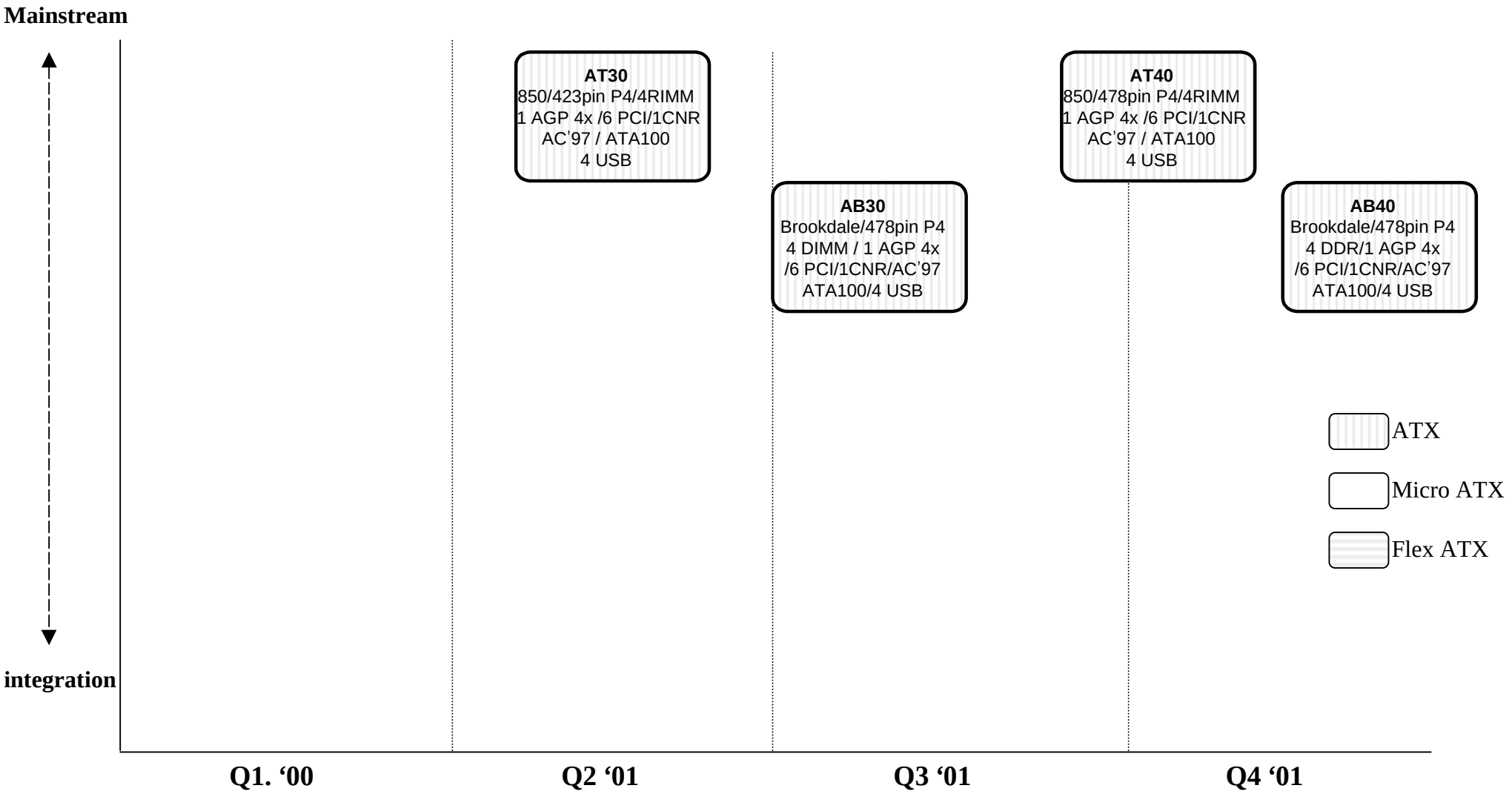
AK12 equipped with VIA KT133 chipsets. With supporting high performance K7 CPU, it is positioned in a best cost / performance ratio product.

AK11 is equipped with the VIA KT133A chipset, which supports the Athlon-C at 133MHz (266MHz FSB). AK11 has more built in features to support a better over-clock capability than AK12. It has 6 PCI slots and 1 CNR slots to give users the maximum expansion ability.

AK30 will use KT266 chipsets to support AMD K7 CPU at 133MHz DDR FSB and 3 DDR DIMM.

AK32 is the AK30's sister board, but supports 2 DDR + 2 SDRAM to make a good upgrade capability.

Pentium 4 Series



Pentium 4 Series

Pentium 4

Intel decide to accelerate P4 market in 2001, so it decides to pull in the SDRAM and DDR P4 chipsets, Brookdale, into the market this year.

AB30 is the SDRAM version Brookdale based motherboard. It will makes the P4 motherboard ramp up in Q3 in the main-steam PC market.

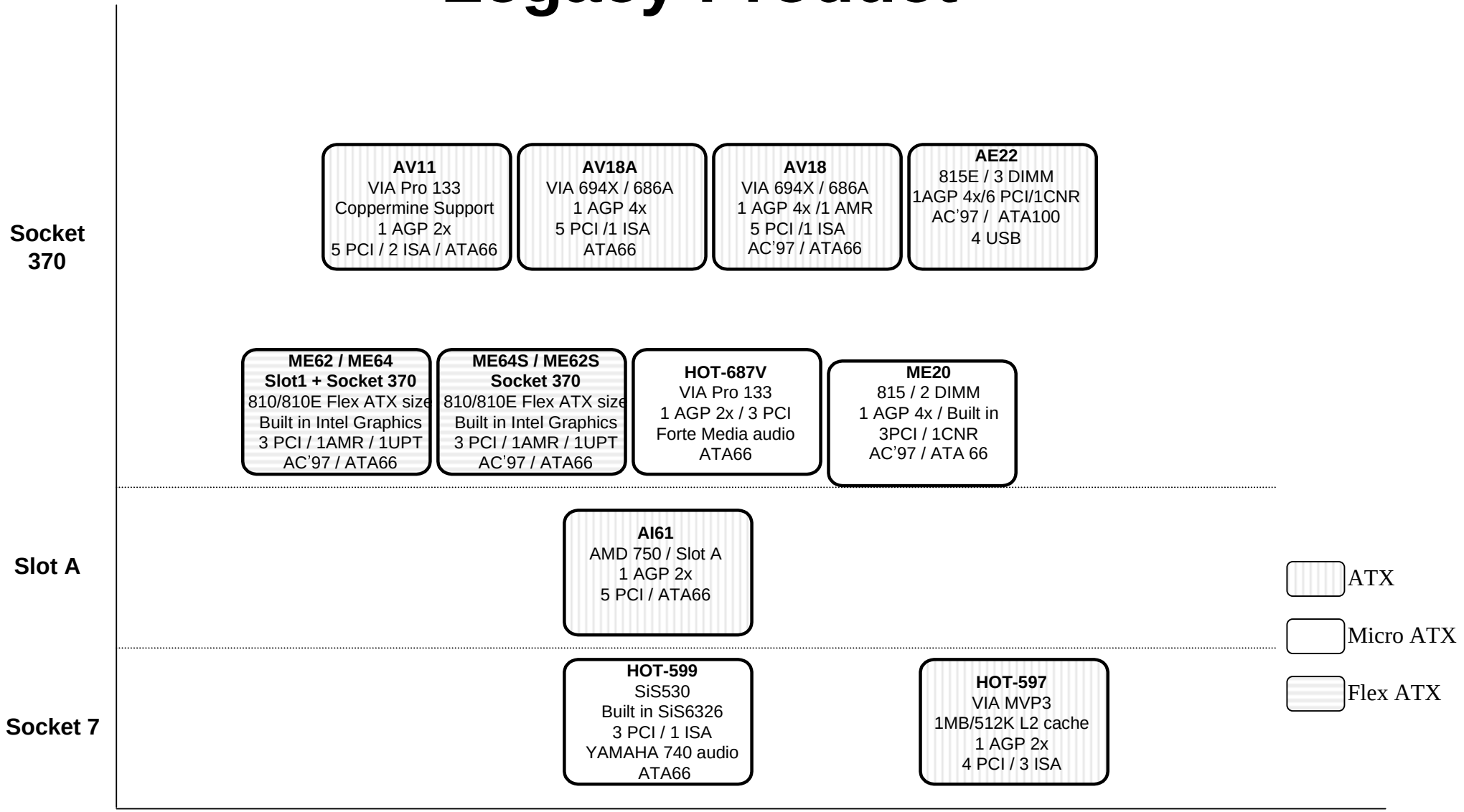
AB40 is the DDR SDRAM version of Brookdale based motherboard. It provide another platform with high performance memory bandwidth technology. Compared with RDRAM based P4 platform, AB40 is a much more cost effective solution on P4 platform.

Technical Note:

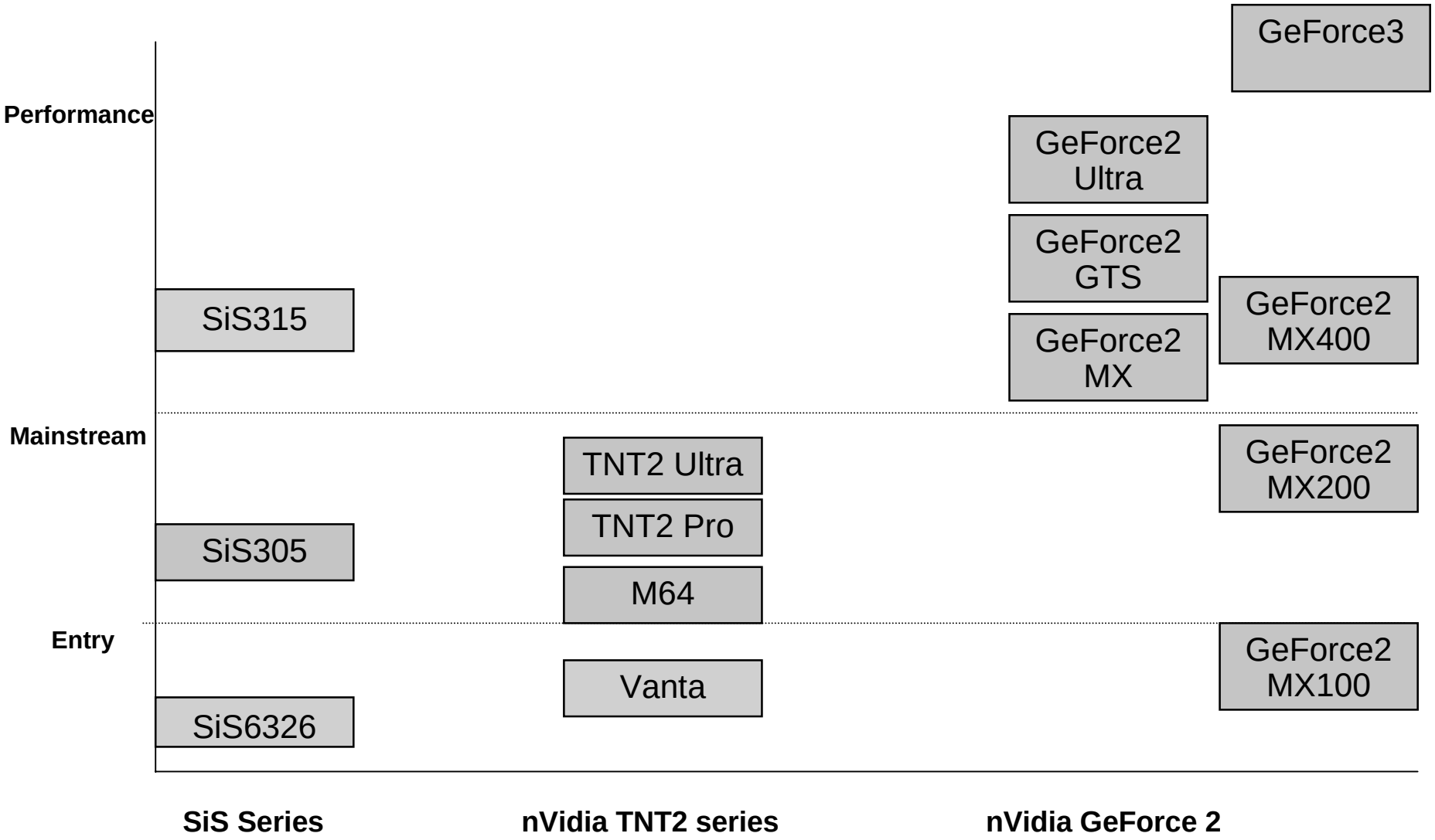
LAN function is mainly composed by two different parts. One is **MAC** (Media Access Controller) and another is **PHY** (Physical Layer). ICH2, SiS635/SiS730S/SiS735, and VIA 8233 has a built in LAN MAC, so system integrator needs to add a CNR equipped with a proper PHY to get the 10 / 100Mb Ethernet or 1 / 10Mb HomePNA function.

CNR (Communication and Network Riser) is a new interface defined by Intel to supports additional function such as 10 /100 Mb Ethernet, 1 / 10 Mb HomePNA, Multi channel (4 or 6) audio, or Modem. Manufacturer may bundle one or two of these function on a same CNR card.

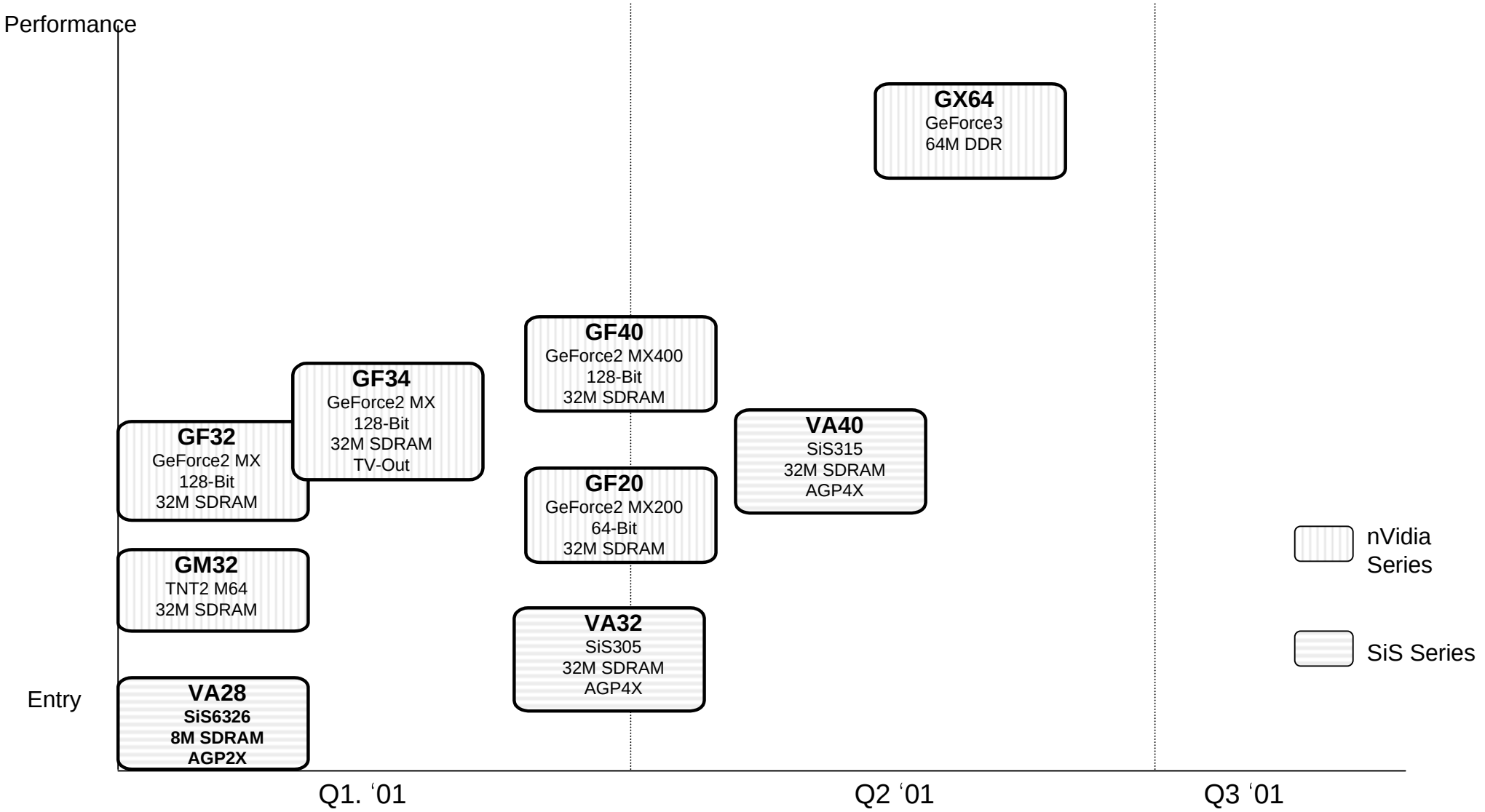
Legacy Product



VGA Chipset


GeForce3
Performance
GeForce2 Ultra
GeForce2 GTS
SiS315
GeForce2 MX400
GeForce2 MX
Mainstream
TNT2 Ultra
GeForce2 MX200
TNT2 Pro
SiS305
M64
Entry
GeForce2 MX100
Vanta
SiS6326
SiS Series
nVidia TNT2 series
nVidia GeForce 2

Shuttle VGA Solution



Product Comparison

	GPU					Board			
Product	**Controller**	**Graphics Engine**	**Memory Bandwidth**	**Fill Rate [pixel / sec]**	**RAMDAC**	**Memory Interface**	**Memory Type**	**Memory Size**	**Others**
GF40	GeForce2 MX400	256-bit	2.7GB/sec	400M	350MHz	128-bit	2Mx32 SDR	32MB	
GF34	GeForce2 MX	256-bit	2.7GB/sec	350M	350MHz	128-bit	2Mx32 SDR	32MB	TV-Out
GF32	GeForce2 MX	256-bit	2.7GB/sec	350M	350MHz	128-bit	2Mx32 SDR	32MB	
GF20	GeForce2 MX200	256-bit	1.3GB/sec	350M	350MHz	64-bit	4Mx16 SDR	32MB	
GM32	TNT2 M64	128-bit	1.2GB/sec	300M	300MHz	64-bit	4Mx16 SDR	32MB	
VA32	SiS305	128-bit	1.0GB/sec	125M	270MHz	64-bit	4Mx16 SDR	32MB	
VA28	SiS6326	64-bit	N/A	40M	175MHz	32-bit	1Mx16 SDR	8MB	

Back Up

Product Summary (Intel Chipset)

Segment	Mainboards with Intel Chipset						
Model	**ME21**	**AE22 / AE23**	**AT30**	**AT40**	**AB30**	**AB40**	**FE22**
CPU Type	FC-PGA	FC-PGA	Socket 423	Socket 478	Socket 478	Socket 478	FC-PGA
Chipset	815E	815E / 815EP	850	850	Brookdale	Brookdale	810E
Form Factor	Micro ATX	ATX	ATX	ATX	ATX	ATX	Flex ATX (7” x 7”)
Memory	DIMM x2	DIMM x 3	RIMM x 4	RIMM x 4	DIMM x 4	DDR x 4	DIMM x2
Graphics	Built in	Built in 815E	N/A	N/A	N/A	N/A	Built in
AGP slot	AGP 4x	AGP 4x	AGP 4x	AGP 4x	AGP 4x	AGP4X	N/A
AMR/CNR	CNR	CNR	CNR	CNR	CNR	CNR	N/A
Slots	3P	6P	6P	6P	6P	6P	1P
Audio	AC97	AC97	AC97	AC97	AC97	AC97	AC97
LAN	Integrated MAC	Integrated MAC	Integrated MAC	Integrated MAC	Integrated MAC	Integrated MAC	None
ATA Interface	ATA100	ATA100	ATA100	ATA100	ATA100	ATA100	ATA66

Product Summary (non-Intel Chipset)

Segment	Mainboards with VIA Chipset										
Model	**AV11**	**AV18/E**	**AV18A**	**MV16E MV17E**	**MV18 MV19**	**AK11**	**AK30 AK31**	**AK32**	**AV30**	**AV32**	**FV24**
CPU Type	FC-PGA	FC-PGA	FC-PGA	FC-PGA	FC-PGA	Socket A	Socket A	Socket A	FC-PGA	FC-PGA	FC-PGA
Chipset	Apollo Pro133	694X 686A/B	694X 686A	PL133 PM133	PL133 PM133	KT133A	KT266	KT266	Pro 266	Pro 266	PL133
Form Factor	ATX	ATX	ATX	Micro ATX	Micro ATX	ATX	ATX	ATX	ATX	ATX	Flex ATX
Memory	DIMM x3	DIMM x3	DIMM x 3	DIMM x2	DIMM x2	DIMM x3	3/4 DDR	2DDR 2 DIMM	3 DDR	2 DDR 2 DIMM	DIMM x 2
Graphics	N/A	N/A	N/A	Built in	Built in	N/A	N/A	N/A	N/A	N/A	Built in
AGP slot	AGP 2x	AGP 4x	AGP 4x	AGP 4x PM133	AGP 4x PM133	AGP 4x	AGP 4x	AGP 4x	AGP 4x	AGP 4x	N/A
AMR/CNR	None	AMR	None	AMR	AMR	CNR	CNR	CNR	CNR	ACR	Optional AMR
Slots	5P/2I	5P/1I	5P/1I	2P	2P/1I	6P	6P	6P	6P	5P	N/A
LAN	N/A	N/A	N/A	N/A	N/A	N/A	Built in MAC	Built in MAC	Built in MAC	Built in MAC	Realtek
ATA interface	ATA66	ATA66/100	ATA66	ATA100	ATA66	ATA100	ATA100	ATA100	ATA100	ATA100	ATA66
Audio	None	AC97	None	AC97	AC97	AC97	AC97	AC97	AC97	AC97	AC97

Product Summary (non-Intel Chipset)

Segment	Mainboards with VIA Chipset						SiS-Chipset		
Model	**AV20**	**MV25**	**AK12**	**MK12**	**MK20**	**MK30**	**AS30**	**AS40**	**MS21**
CPU Type	Dual FC-PGA	FC-PGA	Socket A	Socket A	Socket A	Socket A	FC-PGA	Socket A	Socket A
Chipset	Pro 133A	PM266	KT133	KT133	KLE133	KT266	SiS635	KT266	SiS 730S
Form Factor	ATX	Micro ATX	ATX	Micro ATX	Micro ATC	Micro ATX	ATX	ATX	Micro ATX
Memory	DIMM x3	DDR x2	DIMM x 3	DIMM x2	DIMM x 2	DDR x2	DDR x3	3/4 DDR	2 DIMM
Graphics	N/A	Built in Savage 4	N/A	N/A	Built in Trident	N/A	N/A	N/A	Built in SiS730S
AGP slot	AGP 4x	AGP 4x	AGP 4x	AGP 4x	N/A	AGP 4x	AGP 4x	AGP 4x	AGP 4x
Riser	CNR	None	None	AMR	AMR	CNR	ACR	CNR	AMR
Slots	5P	3P	5P	2P	2P/1I	3P	5P	6P	2P
LAN	N/A	Built in MAC	N/A	N/A	N/A	Built in MAC	Built in MAC	Built in LAN	Built in LAN
ATA interface	ATA100	ATA100	ATA100	ATA100	ATA100	ATA100	ATA100	ATA100	TA100
Audio	AC97	6Channel	AC97	AC97	AC97	AC97	AC97	AC97	AC97
Other	IDE Raid	N/A	N/A	N/A	LAN	N/A	N/A	N/A	N/A