

# ASPEED Technology

(Ticker : 5274)

**Chris Lin, CEO**

May, 2015

## Company Profile

Product Line Introduction

Growth Driver

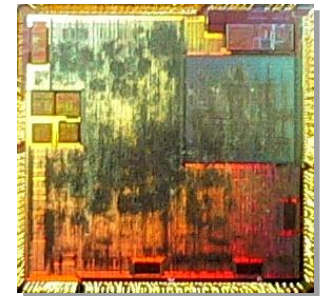
Future Developments

Financial Performance

# Company Profile - Information



- Foundation Date: Nov. 15<sup>th</sup> , 2004
- Paid-In Capital: NTD 263M (USD 8.7M)
- Number of Employees: 45
- Headquarter: 2F, No.15, Industry East 4<sup>th</sup> Rd., Hsinchu Science Park
- Business Model: Fabless IC Company
- Product Line:
  - Remote Server Management (SOC)
  - PC & AV Extension (SOC)
  - Desktop Virtualization (SOC)



# Company Profile– Vision and Philosophy



## **Mission :**

ASPEED enables people and business worldwide to enjoy technology at its best

## **Vision :**

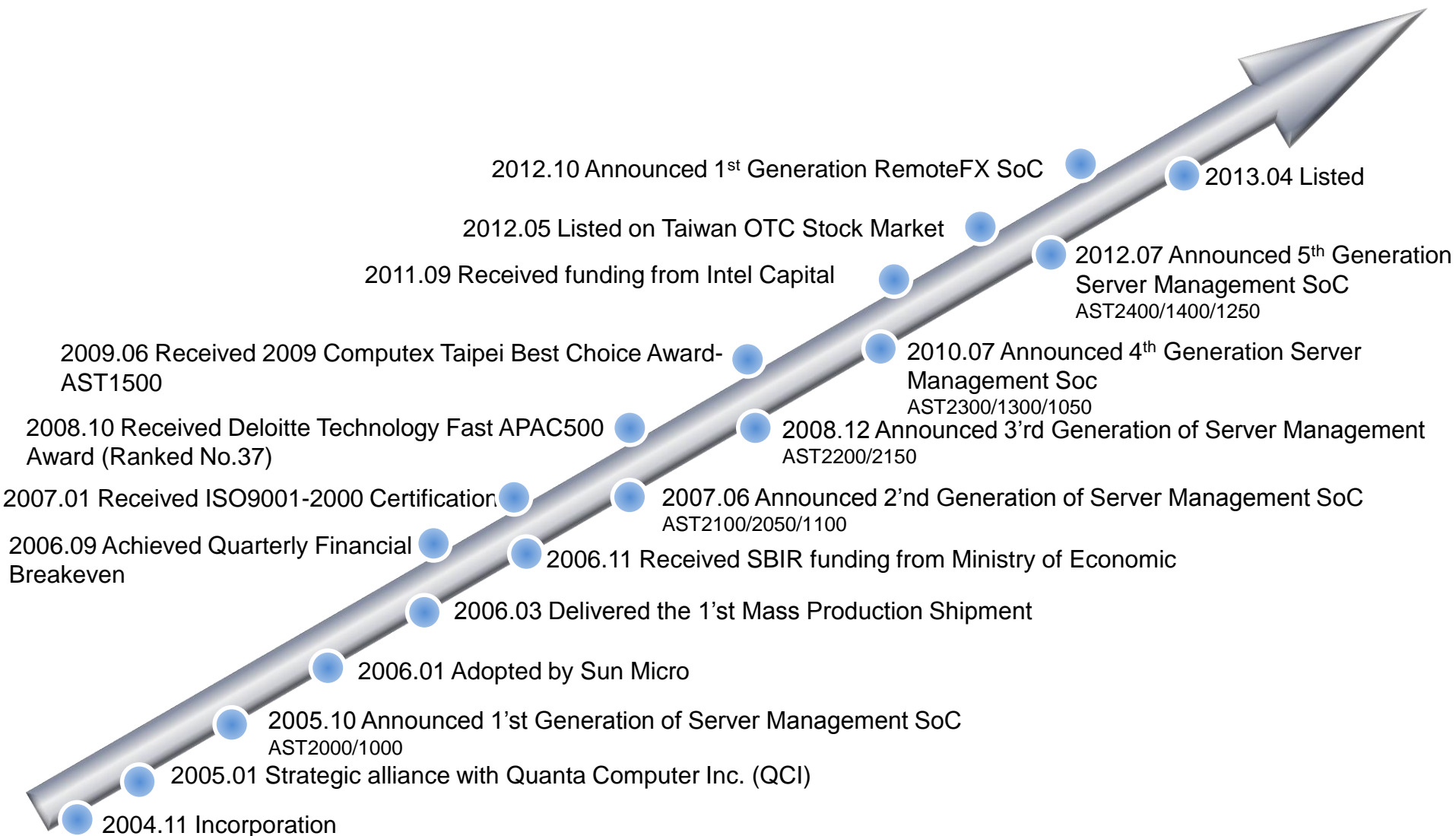
Becoming a Leader in centralized enterprise computing SOC solution provider

## **Management Philosophy :**

ASPEED treats its employees the way they like to be treated, provides them with routes to success and respect them with the highest confidence.

Through innovation and teamwork, ASPEED is unrelenting committed to meet customer needs through excellence in quality, service, and technology

# Company Profile– Milestone



# Company Profile –Management Team



Title	Name	Date on Board	Education	Other Position	Years of Work Experience
President	Chris Lin	Nov.15 <sup>th</sup> , 2004	-Master, Electrical Engineering, NTU -EMBA, NCTU -President, XGI -VP, Multimedia Product Division, SIS	-Director, Fung-Hwa Investment Inc. -Director, Sheng-Hwa Investment Inc.	26
Sales and Marketing Dept. Vice President	Luke Chen	Oct. 3 <sup>rd</sup> , 2005	-EMBA, NCCU -Director of Strategy Marketing, SIS	None	23
Product & Technology Dept. Vice President	Hung-Ju Huang	Nov.15 <sup>th</sup> , 2004	-BS/EE, MS/EE, NCKU -Director of Engineering, XGI -Senior Manager of Engineering, SIS	None	21
Finance Dept. Manager	Tina Chiu	Apr.9 <sup>th</sup> , 2007	-Accounting, FCU -Accounting Administrator, HON HAI PRECISION IND.	None	16
Finance and Admin. Dept. Procurement Manager	Selena Luo	Apr. 3 <sup>rd</sup> , 2006	-Ming Chuan University Tourism Management Dept. -Sr. Procurement Engineer, SiS -Procurement Manager, XGI	None	24
Quality Control Dept. Sr. Manager	Gary Hsu	Dec. 1 <sup>st</sup> , 2004	-Master, Institute of Electrical and Control Engineer, NCTU -Manager, Ene Technology Inc. -Section Manager, SiS	None	17
Auditing Office Manager	Peter Yeh	Sep. 13 <sup>th</sup> , 2010	-Bachelor, Department of Accounting, NCKU -Deputy Manager, Logah Technology - Grand Cathay Securities	None	14

Company Profile

**Product Line Intro**

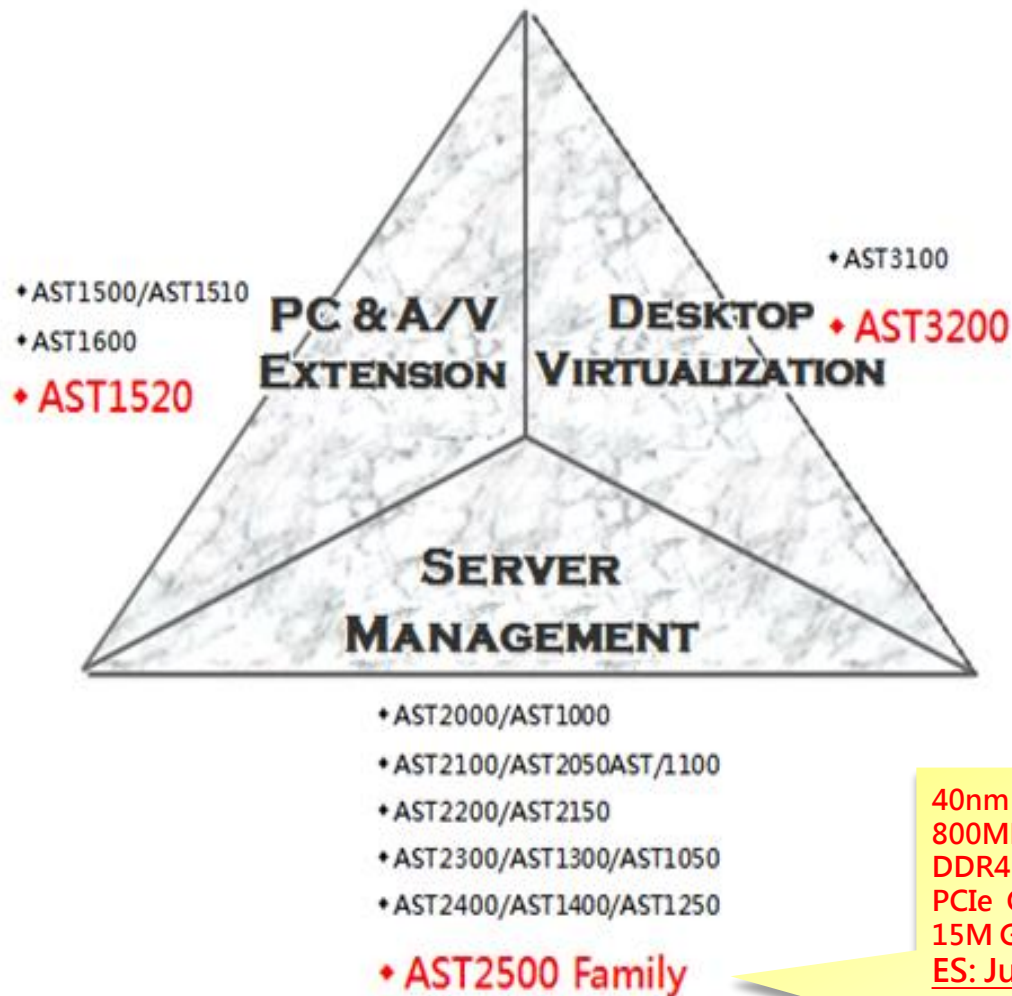
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# Product Line



40nm LP Process  
4Kx2K Support  
Multi-Screen TV Wall  
1GHz CPU  
DDR4 SDRAM  
ES: Jun 2014

40nm LP Process  
Microsoft RemoteFX 8.0  
Citrix HDX Ready  
1GHz CPU  
DDR4 SDRAM  
PCIe Gen-II  
ES: Jun 2014

40nm LP Process  
800MHz CPU  
DDR4 SDRAM  
PCIe Gen-II  
15M Gates Equivalent  
ES: Jun 2014



# Product Intro – Remote Server Management (Major Functions and Protocols)



## **IPMI** (Intelligent Platform Management Interface)

Standardized Computer System Interface led by Intel and supported by Dell, HP and NEC

## **KVMoIP** (Keyboard-Video-Mouse Over Internet Protocol)

Hardware device that allows a user to control multiple computer/servers

## **BMC** (Baseboard Management Controller)

Remote Management Controller to implement IPMI, SNMP and KVMoIP

## **2D VGA**

VGA chip for the server display, also includes VGA bios and VGA driver



## Major Functions

Remote activation and management

Automatic Hardware Detect  
(Voltage, temp, fan, memory )

Server Condition Monitoring  
(Program Condition, System resource allocation, etc.)

Provide Equipment Information  
(Including CPU, memory, HDD)

Remote activate applications

System restore and status management

Receive alerts

Event log

Remote assets inventory

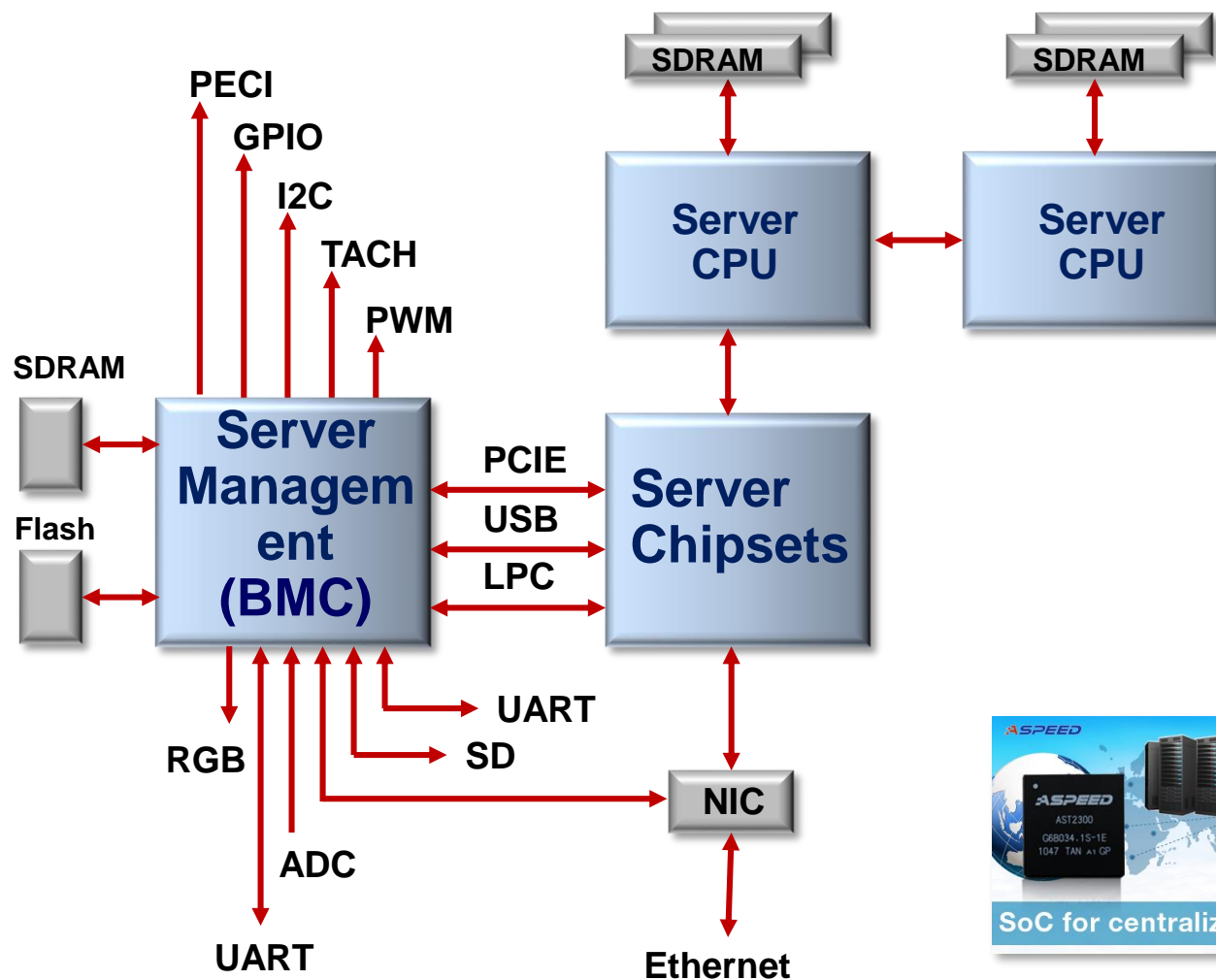
System Health indication

Remote System Configuration

Fault Warning Function

Automatic Alert to Mobile Devices

# Product Intro – Remote Server Management (System Architecture)



# Product Intro – Remote Server Management (Market Analysis)



## Worldwide: Server Vendor Revenue Estimates, 4Q14 (U.S. Dollars)

Company	4Q14 Revenue	4Q14 Market Share (%)	4Q13 Revenue	4Q13 Market Share (%)	4Q14-4Q13 Growth (%)
HP	3,897,668,666	27.9	3,839,527,072	28.1	1.5
Dell	2,425,147,102	17.3	2,074,167,350	15.2	16.9
IBM	1,788,907,117	12.8	3,622,900,853	26.5	-50.6
Lenovo	1,103,620,000	7.9	130,855,009	1.0	743.4
Cisco	772,200,000	5.5	646,100,000	4.7	19.5
Others	3,992,675,197	28.6	3,360,032,355	24.6	18.8
<b>Total</b>	<b>13,980,218,081</b>	<b>100.0</b>	<b>13,673,582,640</b>	<b>100.0</b>	<b>2.2</b>

Note: Lenovo's Q414 results include IBM x86 sales. IBM's Q414 results include only non x86 servers.

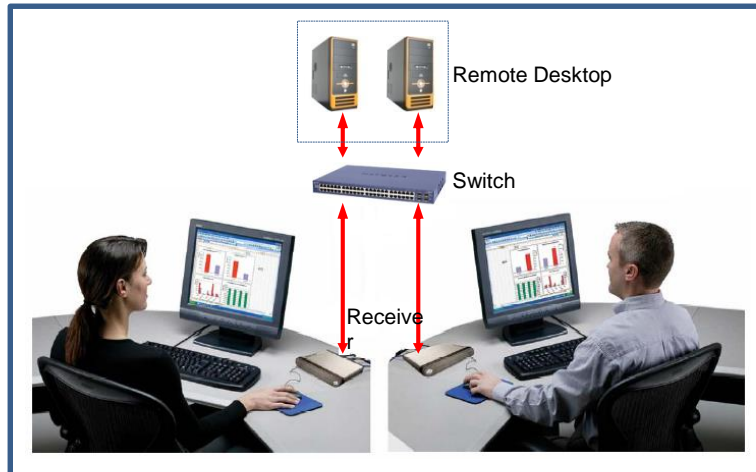
Source: Gartner (March 2015)



- Cloud Data center Workloads increase CAGR 35% for cloud data center

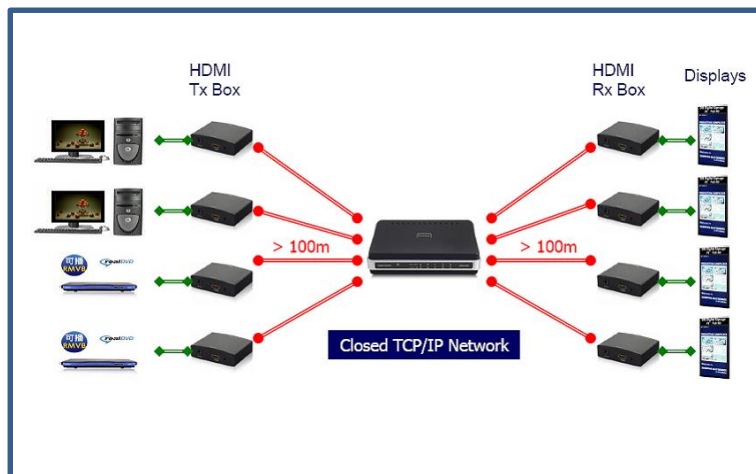
- Market Status :
  - 2014 WW Server Shipment Estimate approx. 1000M
  - Approx. 30% for Cloud Server Shipment
  - 30% GAGR for Cloud Servers
  - Others: Inspur, Sugon, Oracle, etc.
- Server Management Competitor Analysis :
  - There are 3 major providers WW, RENESAS (listed in Tokyo Stock Exchange), ASPEED Technology, Emulex (listed in NYE)
  - ASPEED is the only Taiwan local provider

# Product Intro – PC & AV Extension (Scenario and Major Functions )



## Major Function for PC Extension

- Remote Centralized Management
- Improve IT Security
- Decrease IT Management Budget
- Fault report and System Operating Information
- Dynamic login
- Provide Remote Support



## Major Function for AV Extension

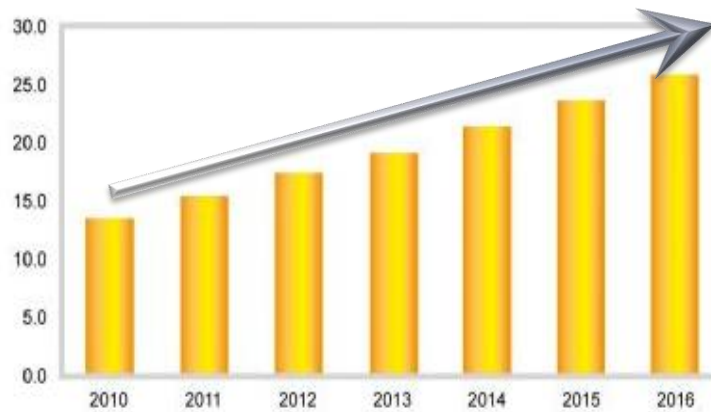
- Patented visually lossless compression algorithm to extend 1080P HDTV Display up to 100M and longer over CAT5E
- Flexible Deployment
- Cost Reduction (1/3 of conventional system)
- Compatible with all Signage software & All Video Format
- Automatic Display Mode Detection and DDC Synchronization)
- Reduce total power consumption
- Supports Video Wall. (2x2, 4x4, 8x8 ...)



# Product Intro – PC & AV Extension (Market Analysis)

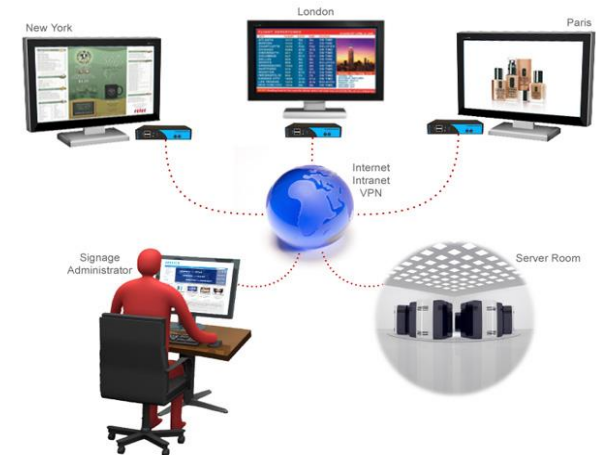


Worldwide Digital Signage & Professional Displays Shipment Forecast  
(Millions of Unites)



	2010	2011	2012	2013	2014	2015	2016
Millions of Unites	13.5	15.4	17.3	19.2	21.3	23.5	25.8

\*Source: Display Research (2013/Q4) IEK (2014/02)

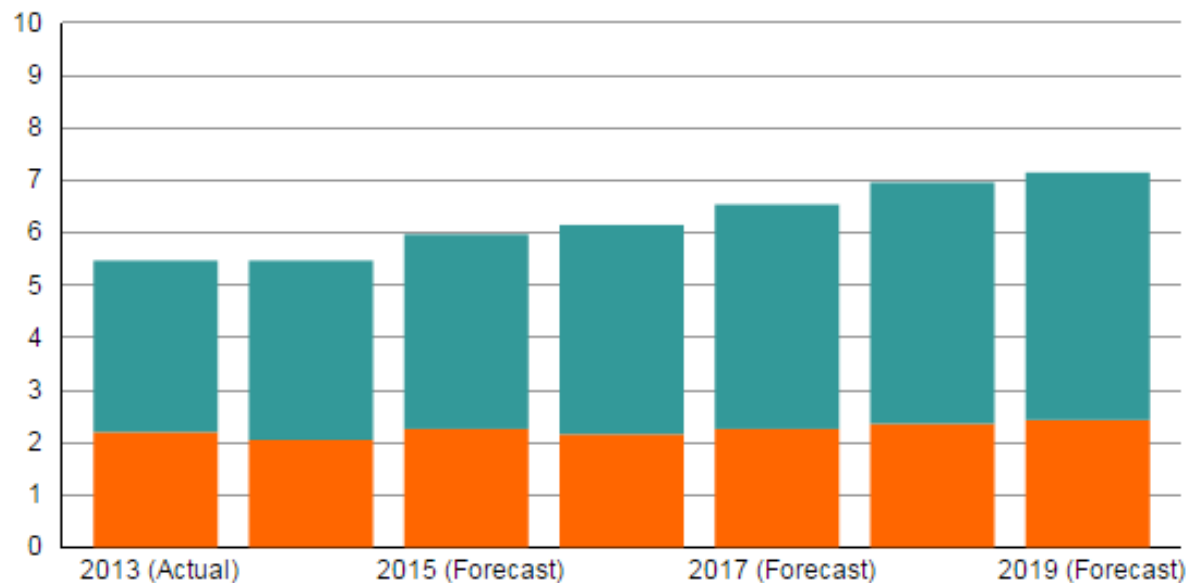


# Product Intro – Remote Desktop Management (Market Analysis)



**Total Worldwide Thin/Terminal Client Unit Shipments, 2013 - 2019  
Emerging vs. Mature Markets (Shipment in Millions)**

Emerging Mature



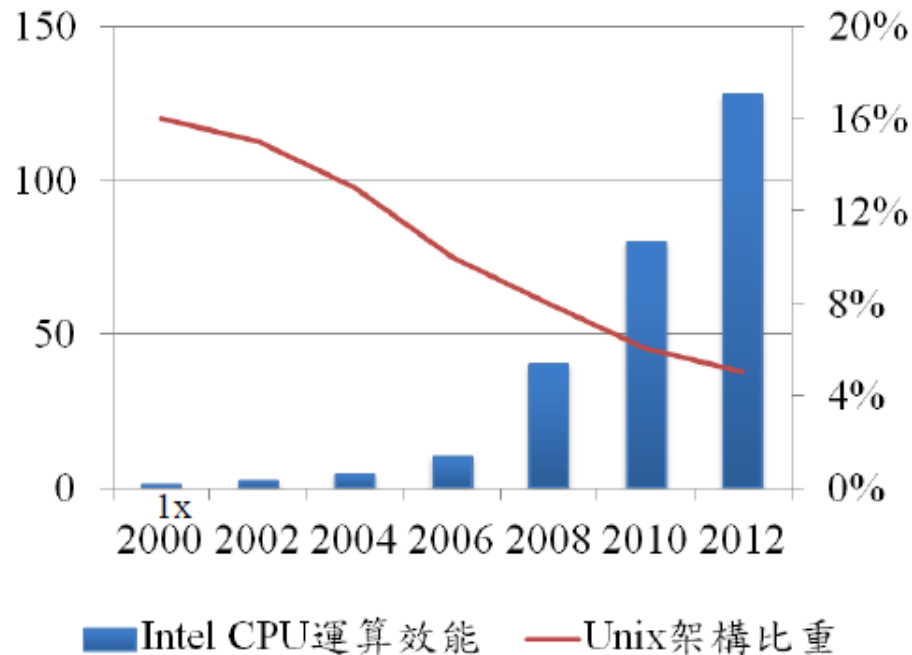
- As application varies, an individual physical server can be divided into multiple (ie. 10~20) isolated virtual desktop computers.
- An individual user is able to access to the server via network connection by adopting a Thin-Client computer or a Zero-Client computer.
- Major virtualization application software suppliers and competitive status.:

Supply	Virtualized Software	Protocols	Virtual Software Price	SOC Provider
VMware	VMware View	PCoIP	~ USD 350/Seat	Teradici, TI
Citrix	XenDesktop	HDX	~ USD 350/Seat	NComputing, TI
Microsoft	Hyper V	RDP/RemoteFX	Free	ASPEED, TI

# Server Computing Power is over 100x



## Intel Server CPU computing power trend



## Windows Server improves Virtualization

彈性運算時代來臨

	Windows Server 2008	Windows Server 2008 R2	Windows Server 2012
HW Logical Process Support	16 LPs	64 LPs	160 LPs
Cluster Scale	16 Nodes up to 1000 VMs	16 Nodes up to 1000 VMs	64 Nodes up to 4000 VMs
Servers in a Cluster	16	16	64

註：以2000年為基期

資料來源：Intel、Microsoft，MIC整理，2012年10月

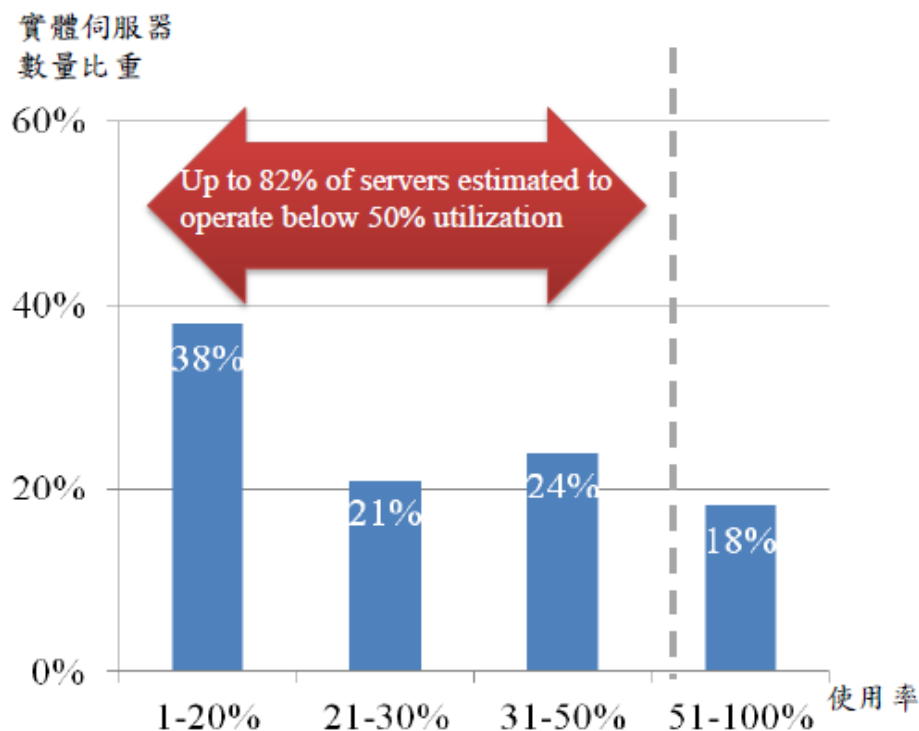
- X86 servers computing power has grown 100 times over the last 10 years. Current X86 servers contains multi-core computing power as well as VM. Therefore, entry level servers are able to provide high computing power.
- Cloud base providers are now able to acquire price advantage server with high computing power building its "server farm". Unlimited expansion



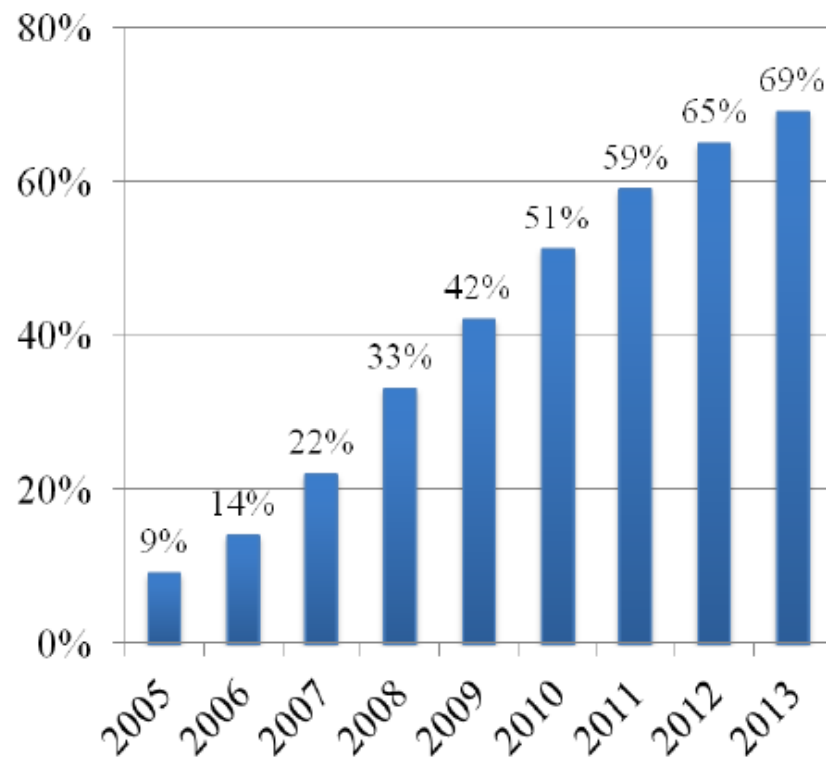
# Server Utilization is Low



## Average Server Utilization



## Virtualized Server percentage



資料來源：AMD、VMWare，MIC整理，2012年10月

- Traditional datacenter, one application uses one server. Although its stable, but its not very efficient. 82% server usage is under 50%.
- Virtualizes increases utilization. And reduce the cost. Utilization > 50%

## OS in Server

## OS in VM

### RemoteFX 8



### RemoteFX 7



## Advantages

- Enhanced from RDP protocol
- Hyper-V is free and embedded in Server2008 and Server2012
- RemoteFX8 can be over Internet and lower data size
- Delivers full Windows users experience

# Why Remote Desktop Virtualization is the trend?



## ▷ Total Cost Ownership

- MIS maintenance cost
- H/W cost, desktop/laptop v.s. small box

## ▷ Green Environment

- Lower power consumption, save the earth
- AST3100/AST3200 is around 2W, entire client box is under 15W(with 4 USB devices)
- Desktop PC is generally over 100W

## ▷ Deployment

- Easy to expand the servers, storages and remote desktop users by virtualization
- Live-move virtual machine among the servers easily

## ▷ Enterprise Security concern

- Office worker
- Specific Task worker
- Contract or offshore worker
- Workers need to access his app/data from anywhere

# Product Intro – Desktop Virtualization (System Architecture)



Virtual Desktop PC  
(Size:長12cm\*寬12cm)



- Support Microsoft RDP/RemoteFX 8.1 Protocol
- Support Microsoft Windows Server 2012/2008
- Support Microsoft Hyper V3.0/V 2.0
- Support Citrix HDX Ready
- Same user experience as PC (2D/3D/Video)
- BOM cost is 1/2~1/3 to traditional ThinClient
- ASPEED SoC Power consumption is 2W , Standby is 0.5W
- Standalone box or embedded to monitor as All-In-One PC.



Virtual  
All-In-One PC

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**Growth Driver**

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## **Intel's Next Generation Server platform-Grantley ramp-up**

- DDR4 price becomes more reasonable in 2H2015
- Data Center maintain high growth momentum.
- High growth rate in China.
- New white box customer.

## **Cloud Data Center high Growth Rate**

- Increase in cloud data Center workloads at 35% CAGR
- ASPEED has high market share in cloud data center customers
- Strong Demand from Big Data Trend
- New BMC Applications: Storage device and network switch

## **Other Product Lines**

- PC/AV Extension continues to grow steadily at 30%; new generation IC
- Desktop Virtualization ramp up

Company Profile

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# Future Development– Product Plan



產品別	說明
<b>Remote Server Management</b>	<ul style="list-style-type: none"><li>• Platform &amp; Launch Schedule Alignments</li><li>• Increase brand name customers recognition and market penetration</li><li>• Continue to work closely with software company</li><li>• Seize Micro-Server business opportunity</li><li>• Adopt more advanced process in order to provide better features, lower power consumption, and lower cost SoC solution</li></ul>
<b>PC &amp; AV Extension</b>	<ul style="list-style-type: none"><li>• Actively expand new market, new customer and new application</li><li>• Adopt more advanced process in order to provide better features, lower power consumption, and lower cost SoC solution</li></ul>
<b>Desktop Virtualization</b>	<ul style="list-style-type: none"><li>• Co-develop with Microsoft for next generation RemoteFX 8.0 SoC</li><li>• Co-marketing with Microsoft</li><li>• Continue to work closely with software partner</li><li>• Adopt more advanced process in order to provide better features, lower power consumption, and lower cost SoC solution</li></ul>

# Agenda

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**Financial Performance**

# Financial Performance– 2015Q1 Sales & Profits



Unit : NTD 1,000	2014Q1	2015Q1	
	Amount	Amount	YoY
Sales Revenue	178,004	242,438	36.20%
Net Operating Profit	61,728	92,696	50.17%
Pre-Tax Profit	65,064	91,691	40.92%
Net Income	57,655	80,838	40.21%
EPS	2.20	3.09	40.45%

# Financial Performance– Key Indices



Unit : NTD 1,000	2014/1Q	2015/1Q	
	Amount	Amount	YoY
Cash	647,670	875,886	35.24%
Account Receivable	122,817	129,585	5.51%
Inventory	47,632	62,015	30.20%
Debt	-	-	-
Shipment Qty (pcs)	592	864	45.95%

# Financial Performance- Monthly Sales



	2014	2015	YoY Difference (%) <small>単位：千円</small>
January	60,384	100,432	66.32%
February	55,190	75,686	37.14%
March	62,431	66,320	6.23%
April	70,316	72,242	2.74%
May	80,936*	—	—
June	77,263	—	—
July	77,278	—	—
August	67,417	—	—
September	67,540	—	—
October	70,177	—	—
November	50,111	—	—
December	50,541	—	—
Total :	<b>590,802</b>	—	—
Jan.~ Oct. :	248,320	314,681	26.72%

# 財務績效– Dividend Policy



Unit : NTD

	2008	2009	2010	2011	2012	2013	2014
<b>Cash dividend(F)</b>	1.42	2.29	3.00	4.00	5.00	5.50	7.00*
Stock dividend(F)	2.00	2.00	1.42	0.00	0.00	0.00	2.00*
Dividend form capital reserves(F)	0.30	0.30	0.60	0.22	0.20	1.00	0.00*
Total Dividend	3.72	4.59	5.02	4.22	5.20	6.50	9.00*
EPS	4.86	5.64	5.66	4.77	6.50	7.40	10.72

## Earning distribution :

1. Employee bonus 10%~15%
2. Directors bonus no higher than 3%
3. With respect to the earnings available for distribution plus the previously cumulative undistributed retained earnings, the Board of Directors may present a proposal to distribute to the Shareholders by way of dividends at the annual general meeting for approval. Having considered the operational, financial and tax factors, including the Company being in the growing stage during the business life cycle and the future expansion projects, any remaining profits may be distributed in the form of cash dividends and/or shares, and the cash dividends shall be no less than 10% of such remaining profits to be distributed.

\*The appropriations of earnings for 2014 are to be presented for approval in ASPEED's shareholders' meeting to be held on June 3, 2015 (expected).

# Thank You!

