

# CLOUD SERVICES in Vietnam



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## 01 Research overview

## Research objectives

- In the context of the Industry 4.0 acceleration thanks to the invention of the Internet along with drastic technological advancements, the face of the world has been changing profoundly and constantly from all angles, regardless in civil applications or business management
- Strong developments of cyber networks and digital solutions have pulled everything on-line, resulting in an emerging trend in which all transactions are being conducted and recorded on a virtual environment. It replaces the needs for physical equipment by an online space accessible anytime via Internet connection. From then on, “**Cloud Computing**” was born and has rapidly become phenomenal
- This research focuses on the assessment of latest Cloud Computing trends around the globe, as well as specifically addresses the situation and potential of those services in Vietnam, as the South East Asian country has shown prequisites as a promising destination for foreign investors
- The research aims to answer these main questions:
  - ❑ *What are Cloud Services?*
  - ❑ *Overall landscape in Vietnam (e.g. Market volume, Policies, Major suppliers, Popular platforms and applications etc.)*
  - ❑ *Remarkable movements of Cloud Services usage in Vietnam*
  - ❑ *Assessment of Cloud Service growth potential in Vietnam*
  - ❑ *Major key stakeholders participation and forecast in Vietnam (e.g. Korea, US, other countries etc.)*



## 01 Research overview

### Methodologies

- The research collects and combines data through 2 main methods to deliver the overall picture of Cloud services situation in Vietnam
- Time of research: October – November 2021

#### Desk Research



Available reports, directories, articles etc.



#### Enterprise Survey



##### Design & Sample

- Total N = 100
- Location: Hanoi / HCMC / Others
- Target: SME / Large enterprises
- Interviewee: Business owner / CEO / Managing director / IT managers upper level

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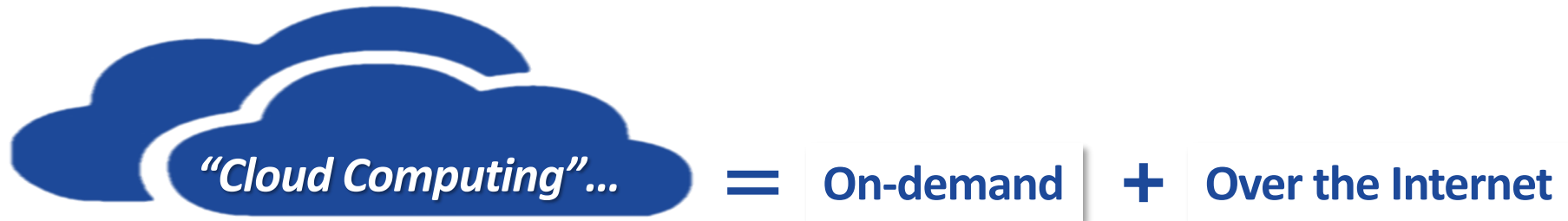
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## 01 What are Cloud services?

### Premise & definition

Some common understanding about Cloud Computing and Cloud services



<Wikipedia> ... is the **on-demand availability of computer system resources**, especially data storage (cloud storage) and computing power, without direct active management by the user

<AWS Amazon> ... is the **on-demand delivery of IT resources** over the Internet with **pay-as-you-go pricing**  
... Instead of buying / owning / maintaining physical data centers & servers, you can access technology services, e.g computing power, storage, databases, on an **as-needed basis** from a cloud provider



are a **wide range of services delivered on demand** to companies and customers **over the internet**

are **infrastructure, platforms, or software** that are hosted by third-party providers and made available to users **through the Internet**




## 01 What are Cloud services?

### Classification & Application

- To major community, SaaS via Public Cloud (e.g Google Drive, OneDrive etc.) seem the most popular of Cloud computing. In fact, more new applications are being developed and exploited at various levels, especially widely among businesses

#### SERVICE MODELS

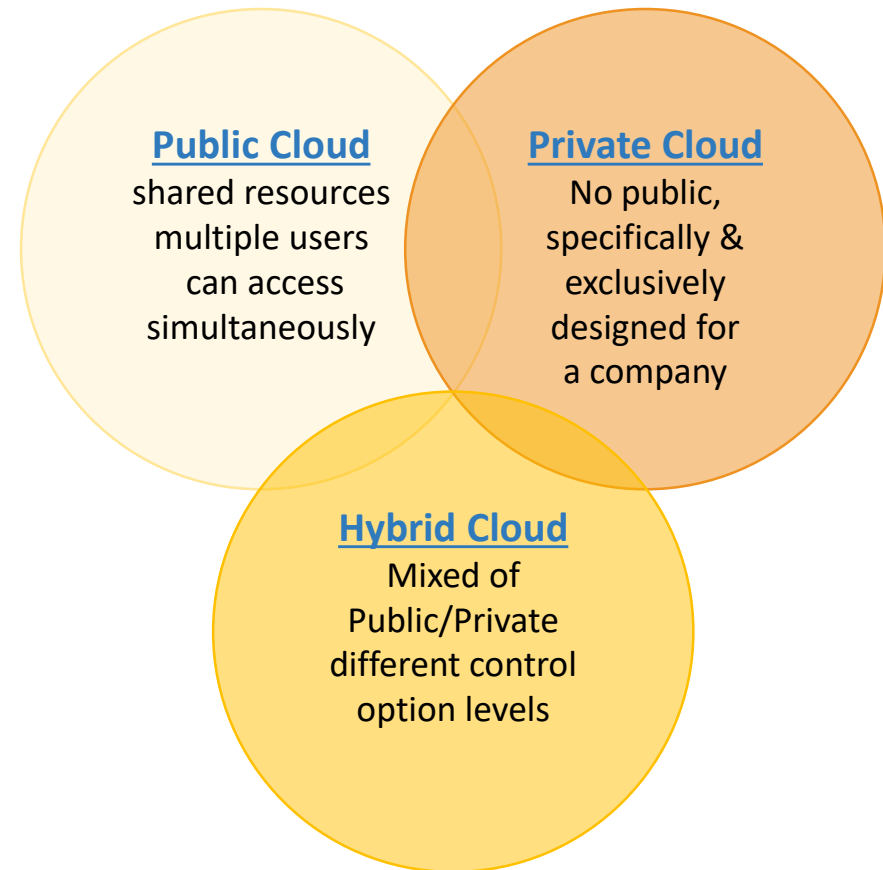
##### Fundamental models → Main users

<b>Software-as-a-Service (SaaS)</b> <i>Email, Biz process, Industry application, software (CRM / ERP / HR...) etc.</i>	 <b>End user</b> (business / consumer)
<b>Platform-as-a-Service (PaaS)</b> <i>Middleware, Development tools, Database, JavaRuntime etc.</i>	 <b>Developer</b>
<b>Infrastructure-as-a-Service (IaaS)</b> <i>Server, Networking, Data Center Fabric, Storage, Load Balancer, Firewalls etc.</i>	 <b>System admin</b>

##### Some new emerging variants

- ❖ Open source Software-as-a-Service (OpenSaaS)
- ❖ Serverless Computing
- ❖ Mobile Back-end as a Service (MBAas)
- ❖ Function as a Service (FaaS)
- ❖ etc.

#### DEPLOYMENT MODELS

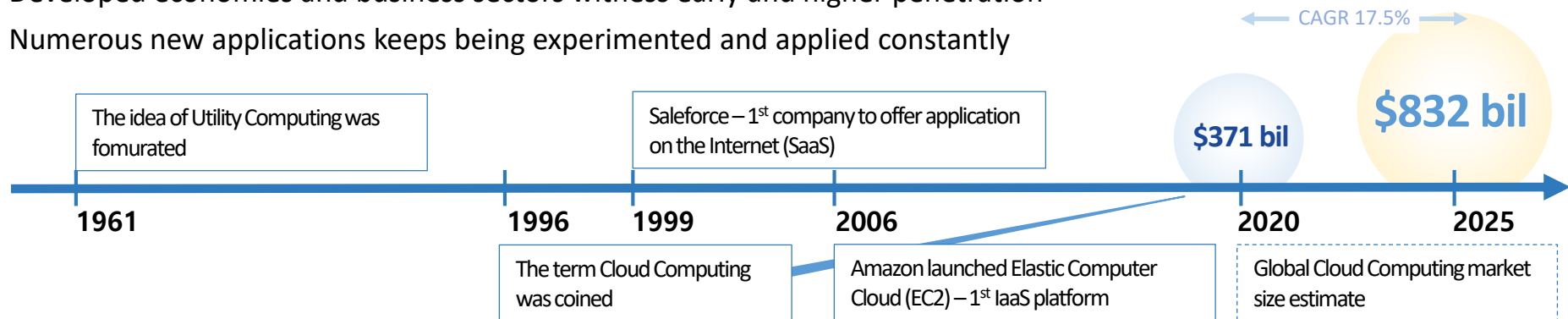


## 02 Global market

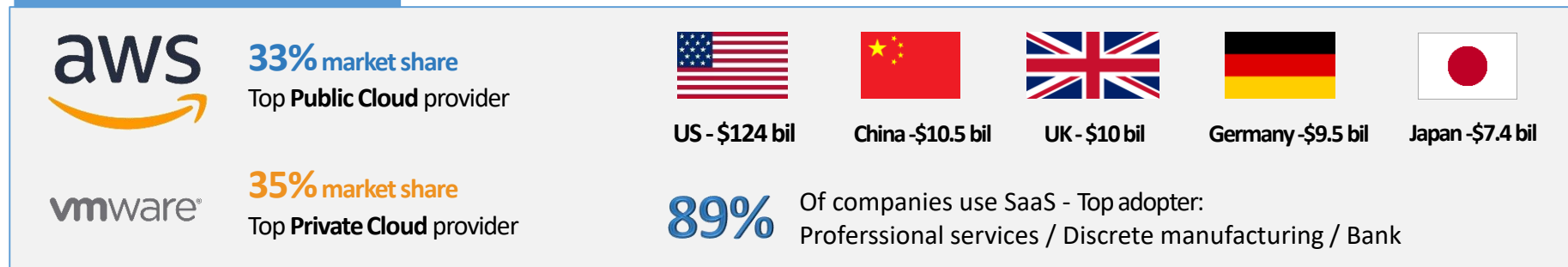
### General concept

#### Global Cloud Service movements

- The global Cloud service market is growing quickly over the last decade and expected to accelerate in incoming years
- Developed economies and business sectors witness early and higher penetration
- Numerous new applications keeps being experimented and applied constantly



#### 2019 market outlook



#### Some forecast of Cloud trends in 2021 and onwards

- ✓ More utilization of Hybrid Cloud
- ✓ Multi-Clouds to Omni-Clouds
- ✓ Rising PaaS
- ✓ Kubernetes (Google) dominance
- ✓ Intelligent Cloud / Cloud AI
- ✓ Integrated Blockchain

Source: Desk research synthesis (IDC, ReportLinker, Statista etc.)



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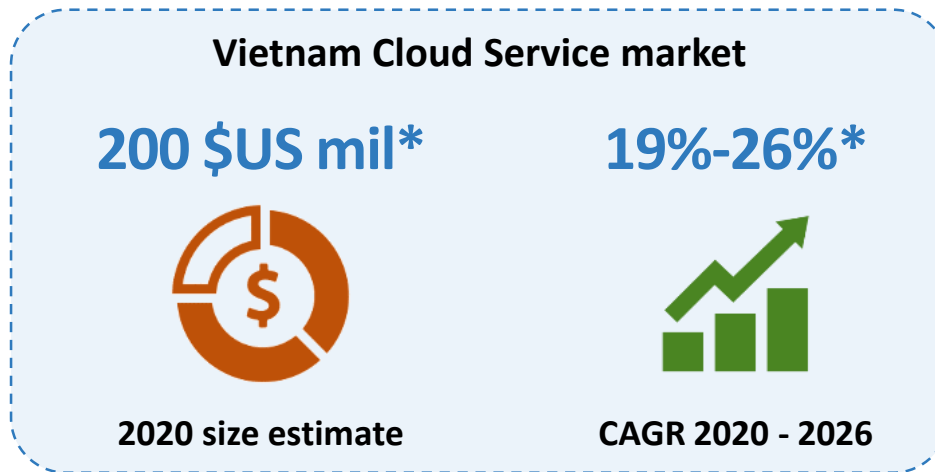
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## 01 Overall picture

### Market size & situation

How is Vietnam Cloud Service market currently positioned & what are influential factors?

- Although being small at present, Vietnam Cloud service market is expected to grow strongly with a growth rate slightly higher than the world's
- Socio-economic background is also favorable for Cloud service penetration and development in Vietnam



**56%**

of total businesses have applied  
Cloud services at different levels

- **65% from Public Cloud** – low costs, no maintenance, near-unlimited scalability
- **80% seized by foreign suppliers**, only **20%** from domestic providers

• **11** big providers  
• **27** data centers  
• **270,000** servers

Socio – Economic factors as motivators

98.4 mil



2021 population

*Young population / quick adaptable*

- **32.9** – Avg age
- **37%** in urban

61.3 mil



Smartphone – Internet

68.7 mil



>800,000



Businesses

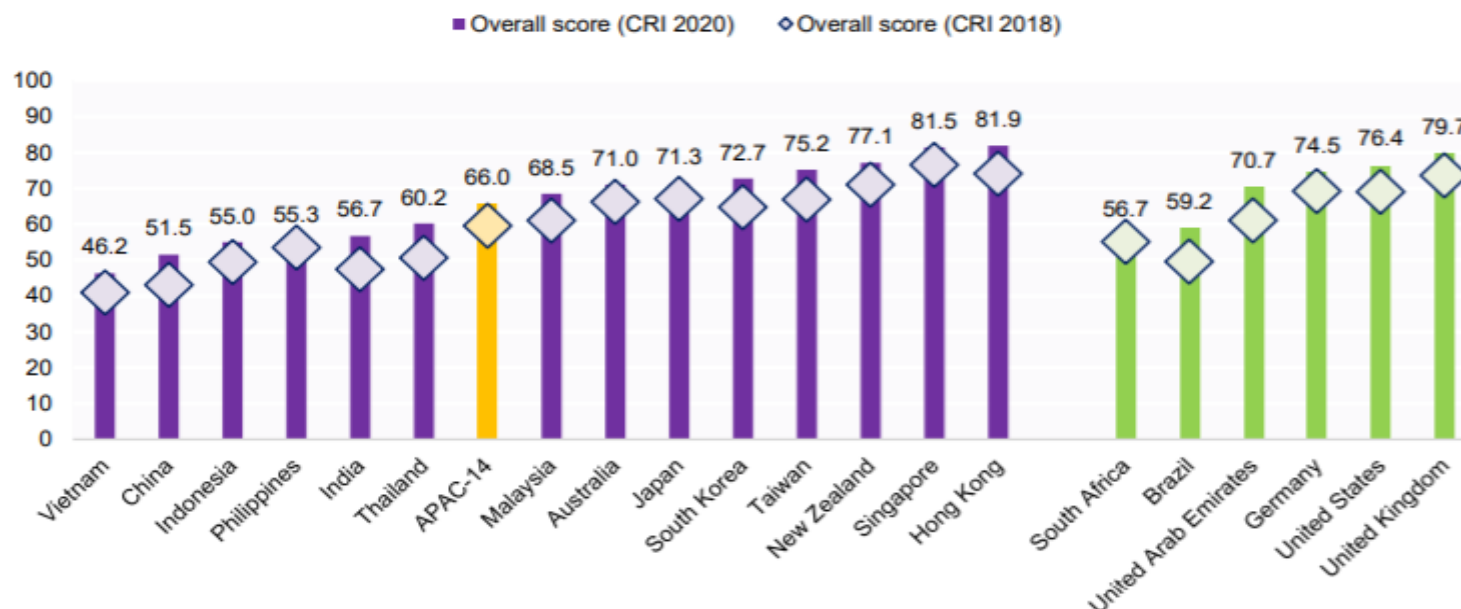
- **>50%** in HN + HCM
- **67%** in service sector
- **94%** micro / small

## 02 Vietnam Cloud Readiness

## Ranking vs region

- Vietnam ranks 14th among 14 APAC countries assessed in the ACCA's Cloud Readiness Index 2020, indicating that the country is still low behind other neighbors, even in SEA region
- Except for connectivity, all other Vietnam scores are ranked lowest among 14 nations, especially Regulations / Governance

### Cloud Readiness Index 2018 – 2020



	International connectivity	Broadband quality	Power and sustainability	Data Center Risk	Cyber security	Privacy	Government Regulation	Intellectual property	Business sophistication	Freedom of information	Total Cloud infrastructure	Total Cloud security	Total Cloud regulation	Total Cloud governance	TOTAL CRI
Score	2.9	4.6	2.5	5.6	6.9	2.2	7.1	5.0	6.8	2.5	10.0	12.6	14.4	9.3	46.2
Rank	7	10	11	12	13	13	12	14	11	13	11	13	14	14	14

## 03 Government policies

## Vision towards Industry 4.0

- In overall, digital transformation is the central direction for all sectors in Vietnam in next period, in which Cloud services are also mentioned to build up a comprehensive eco-system
- Vietnam has not yet issued a particular set of regulations for Cloud computing, except for a few separate documents  
→ many sectors are still waiting for specific instructions (e.g in digital banking)

## National targets

1

Build national policy standard to develop and apply Cloud services

2

Upgrade ICT infrastructure (connectivity, bandwidth speed etc.)

3

Increase Cloud service application in all sectors (public / private)

4

Encourage and boost to develop Cloud services “made in Vietnam”

5

Increase the market of “made in Vietnam” cloud services to 50% - 70% by 2030

## Specific actions

4/2020

**No. 1145/BTTTT-CATT by Ministry of Information and Communication** – Standards to assess & select Cloud computing in e-government

6/2020

**No. 783/THH-HTDLS by Ministry of Information and Communication** – Application & outsourcing of Cloud services in government agencies/ smart cities

6/2020

**Decision 749/QD-Ttg by Prime Minister** – National plan for digital transformation, including Cloud computing as core of digital eco-system

10/2020

**Circular 09/2020/TT-NHNN by State Bank of Vietnam** about information security in bank system, includes general regulations for Cloud computing services

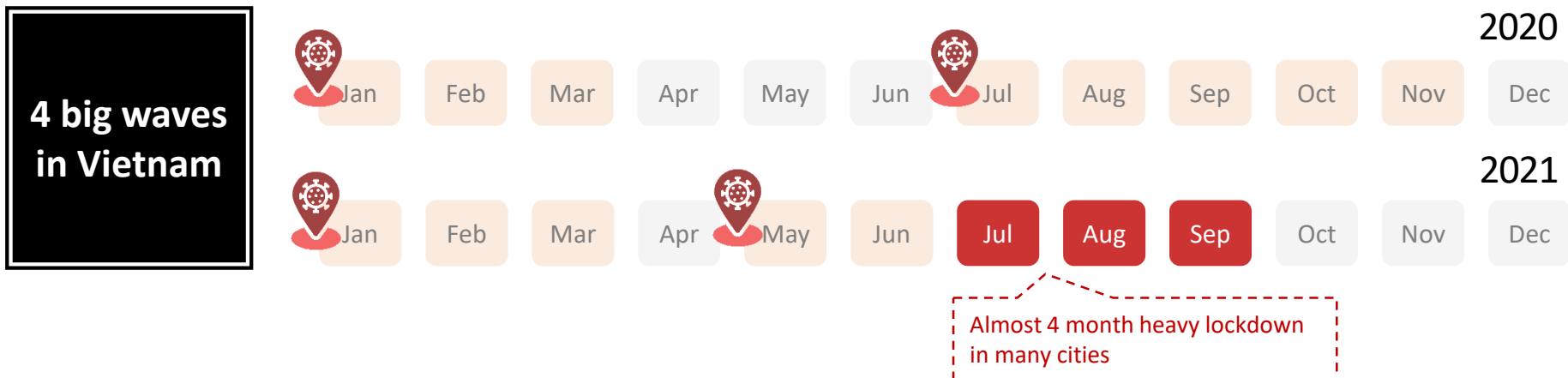
8/2021

**Institute for Policy Studies and Media Development** proposed 5 directions to develop policies for Cloud services in Vietnam

## 04 Big push from COVID-19

## Now force to change

- The pandemic delivers an unexpected but absolutely huge kick to speed up the transformation toward online applications, and Vietnam is not out of the global movement
- Contactless lifestyle and business-doing will surely activate substantial use of on-demand services, which Cloud is future



## WHAT COVID-19 HAS MADE TO THE ECONOMY AND SOCIETY?

- ❑ Social distancing periods – totally stay home – no outside activities allowed – direct contacts strictly avoided
- ❑ Many businesses forced by government to work remotely – only except for essential production / services
- ❑ Manual operation & paperwork are stagnant and become bottleneck in all business flow
- ❑ Immense increasing needs for online applications: e.g Online communication (Zoom / MS Teams etc.), online education, e-commerce (goods ordering, online payment, shipping & deliveries etc.)
- ❑ As a result, even when situation is quite controlled, a wide of community has acquainted with online processes and yet reluctantly returned to traditional way before lockdown

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## 01 In public sectors

### Government / Institutes

- At this stage, building the foundational infrastructure is the main target and concentration for all government agencies and public stakeholders. Only a few applications have been developed and deployed singularly in some organizations without a mass integration



#### Ministry of Natural Resources and Environment (MONRE)

- 2011** – Coordinated with IBM to build a cloud database center using IBM CloudBurst solution
- 2014** – Successfully developed an own virtualization technology that allows to build a private cloud for the national resources and environment itself, able to provide an integrated database as well as the infrastructure for the units under the ministry

#### Ministry of Science and Technology (MOST)

- 2018** – Started experiment and pilot of VinaREN (Vietnam Research and Education Network) – a private national network for research and education

#### Vinh Long University of Technology Education (VLUTE)

- 2018** – Implemented a private cloud module VLUTE-Cloud for education, training and management



#### Ministry of Industry and Trade (MOIT)

- 2018-2021** – Coordinated with iNext Technology and HCMC University of Technology, Vietnam National University to successfully develop PACS (Picture Archiving and Communication Systems) that are deployed in hospitals such as Medic Hoa Hao, Tam Tri etc.

## 01 In public sectors

### In banking sector

- As accelerated through a number of guidelines by State Bank of Vietnam (SBV), some Vietnamese banks are taking first steps toward adopting cloud computing in their operation and service offers
- Large international suppliers / products such as Amazon, Microsoft are still main choices of Vietnam banks



**07/2021**

PVcomBank and CMC technicians successfully deployed their ESB system on OpenShift platform and upgraded to AWS cloud



**09/2021**

Techcombank chose AWS as strategic partner to supply Cloud Computing services, including inclusive training packages AWS Skills Guild



**10/2021**

VIB Bank and Microsoft Vietnam announced a 3-year partnership to deploy multi-cloud on Microsoft Azure premise



**10/2021**

Vietinbank cooperated with AWS to launch digital banking service VietinBank iPay which is entirely deployed on cloud computing

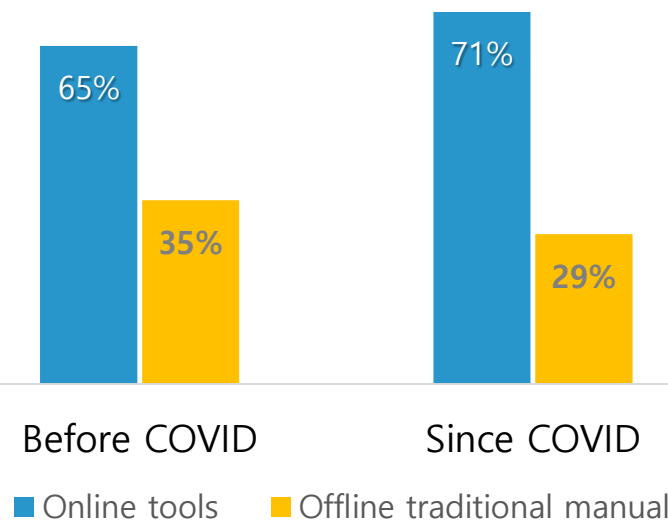
**Still many unsolved concerns about Cloud Service implementation in banking and financial sector, especially regarding data security and legal incomplete / barriers**

## 02 In private sector

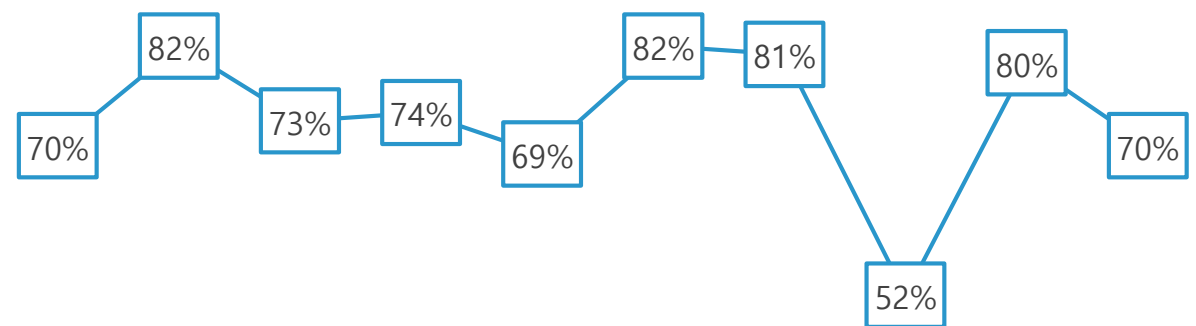
### IT applications as a trend

- Apparently, online applications / IT software / online platforms / digital solutions are becoming more population among businesses, and COVID-19 is another push that increases the usage (70%-80% of businesses increase online tool use in almost all departments)
- Overall, online tools have surpassed traditional manual ways of operation as they handle more workload (about 2/3) in enterprises

Application level of online operation in enterprises



Internal departments with increase of IT / online tools usage

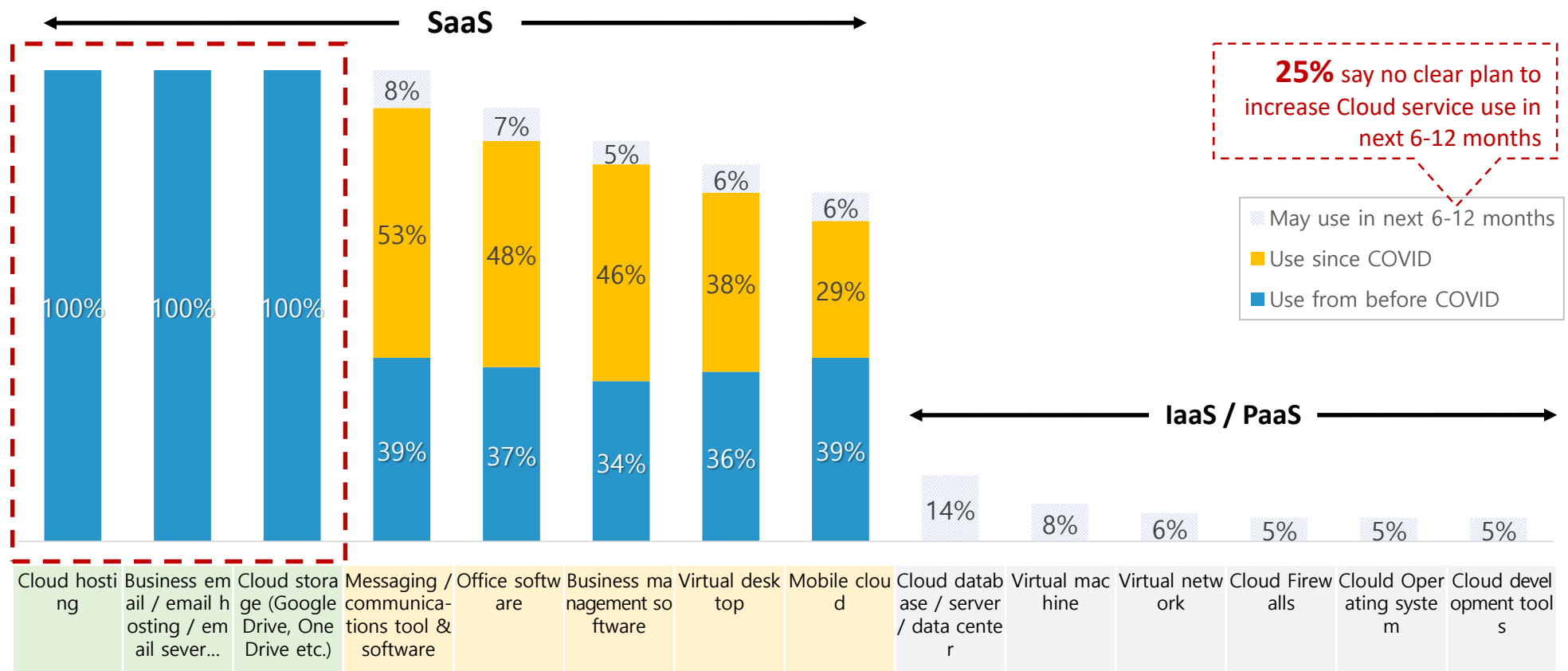


- The enterprise survey is conducted in Oct 2021 among random 100 companies in Vietnam to collect their information regarding application situation of IT solutions / cloud services
- The survey involves the participants from Hanoi, HCMC and other provinces; gathering answers from all sectors (manufacturing, retail / trading, services) and different sizes (small / medium / large based on annual revenue range)

## 02 In private sector

### Use of Cloud services

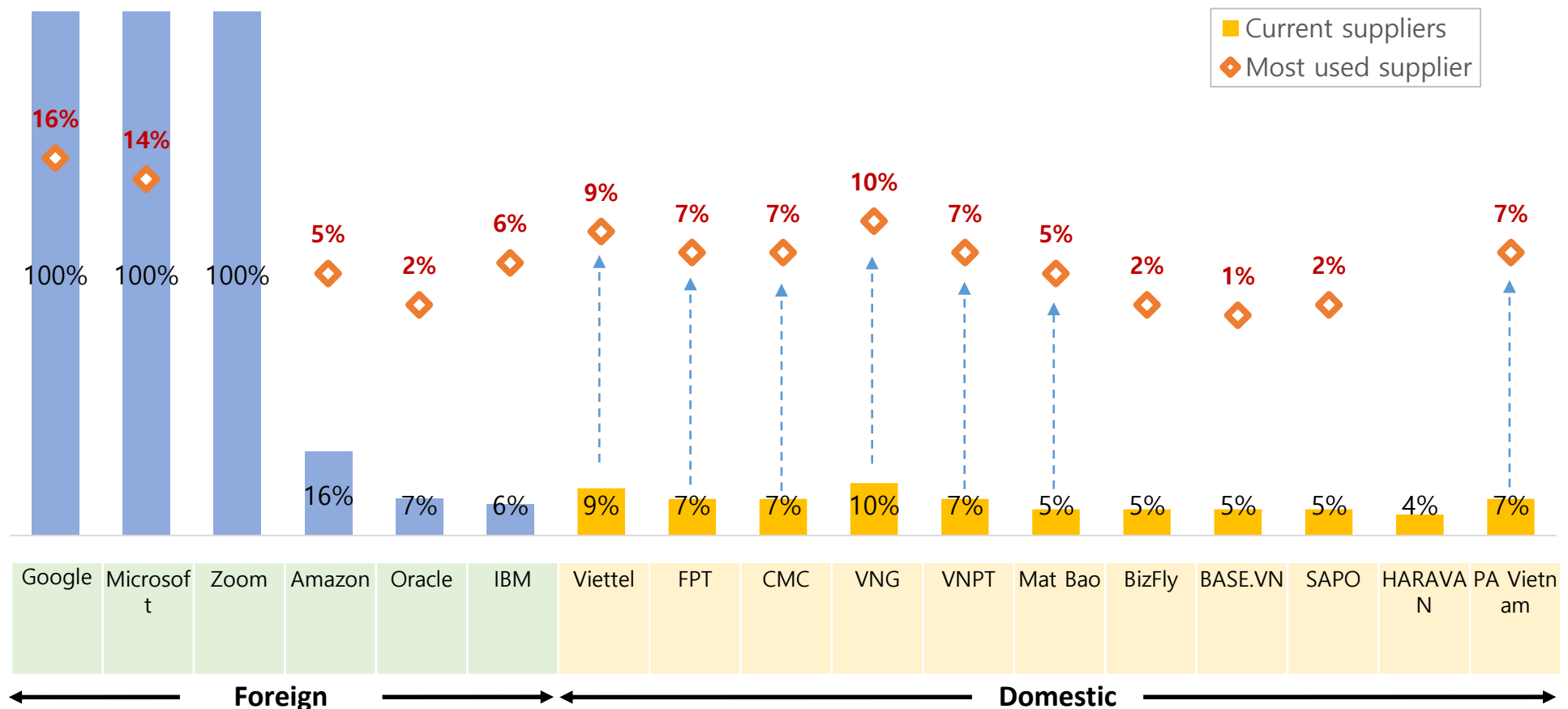
- It's clear to see that early adopted Cloud services are very fundamental ones e.g hosting, email, storage drive
- During COVID, other Cloud services that support to enhance communications and operation processes also increase
- Meanwhile, IaaS / PaaS that require bigger investment and effort are receiving less attention. In particular, none of surveyed enterprises have used these Cloud services and only 14% plan to use Cloud database / server in next 1 year



## 02 In private sector

### Popular Cloud suppliers

- Google, Microsoft, Zoom are absolutely popular and prominent among businesses, with many of their familiar and convenient Cloud services and tools e.g email, drive, call / messaging software. On contrary, Vietnamese suppliers's use is much smaller and fragmented
- One positive sign is that Vietnamese suppliers are doing better at converting clients to loyalty and frequent users

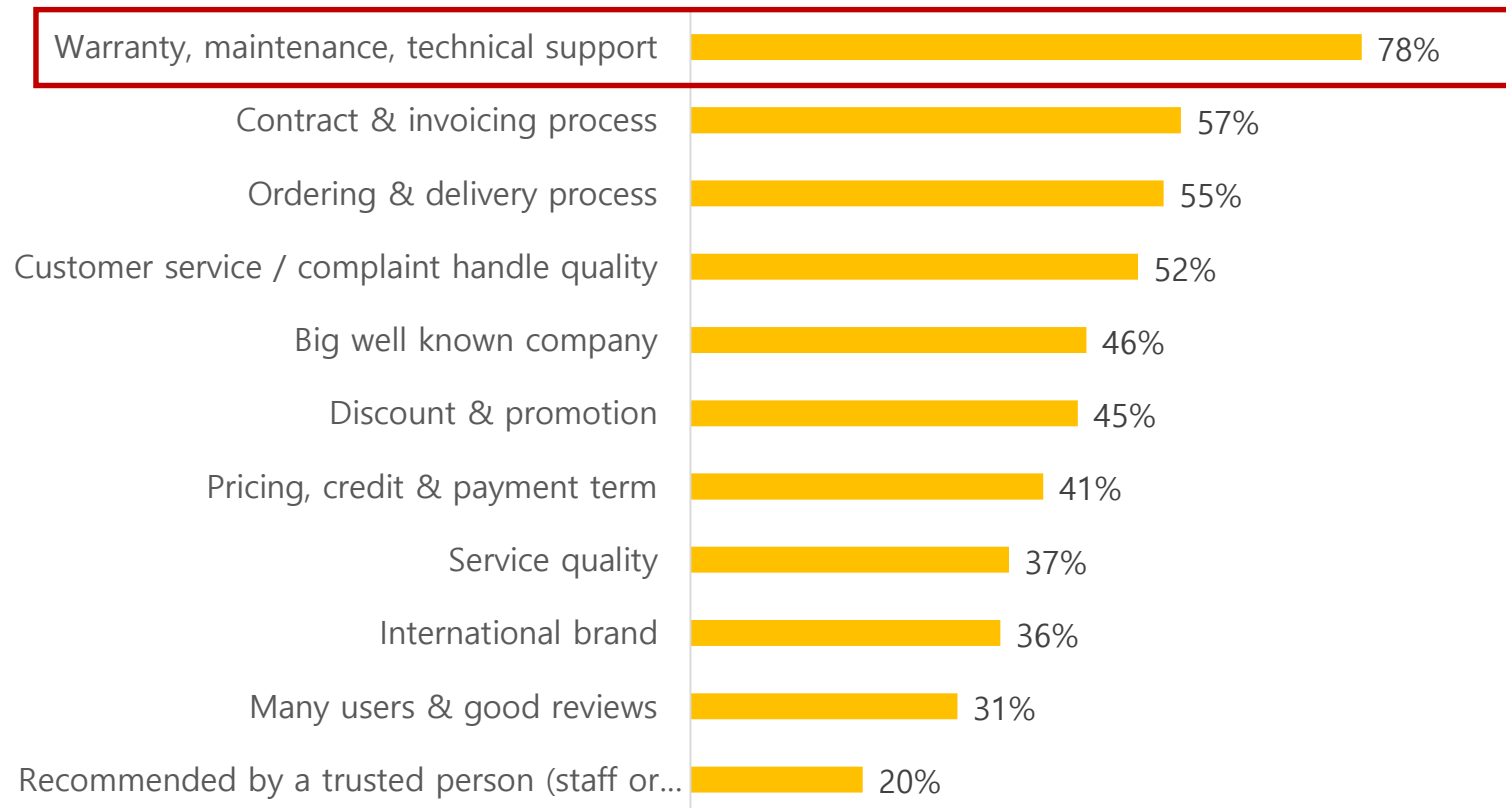


## 02 In private sector

### Important criteria

- Surprisingly, when asked about criteria to select a Cloud service supplier, most of businesses mention about good processes e.g. warranty, maintenance, technical support / contract & invoicing / ordering & delivery / customer service
- It indicates that Vietnamese enterprises are much concerned about how to get the services, how to adopt and handle well in their operation

### Important factors to choose a Cloud service supplier



It seems businesses are still precautious, they want convenient processes with guarantee

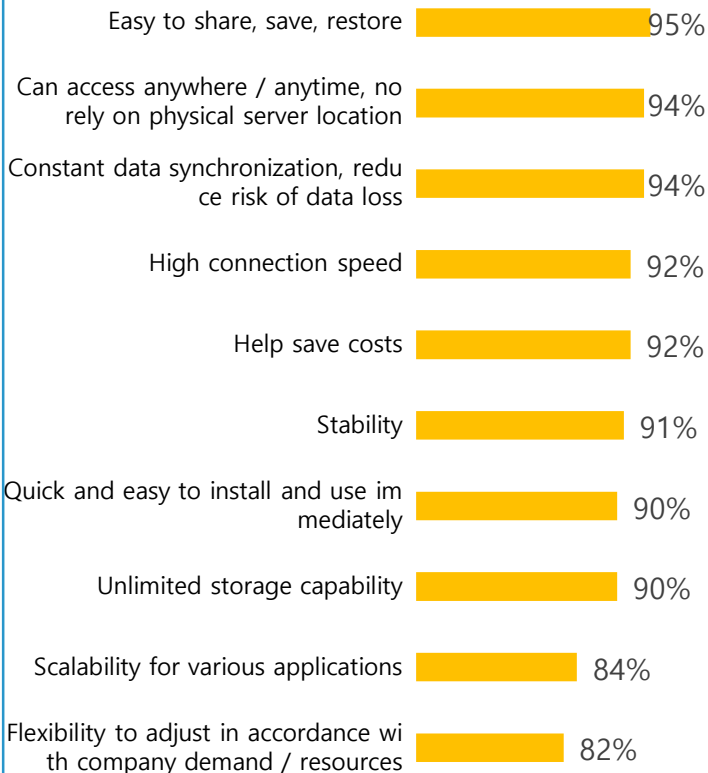


## 02 In private sector

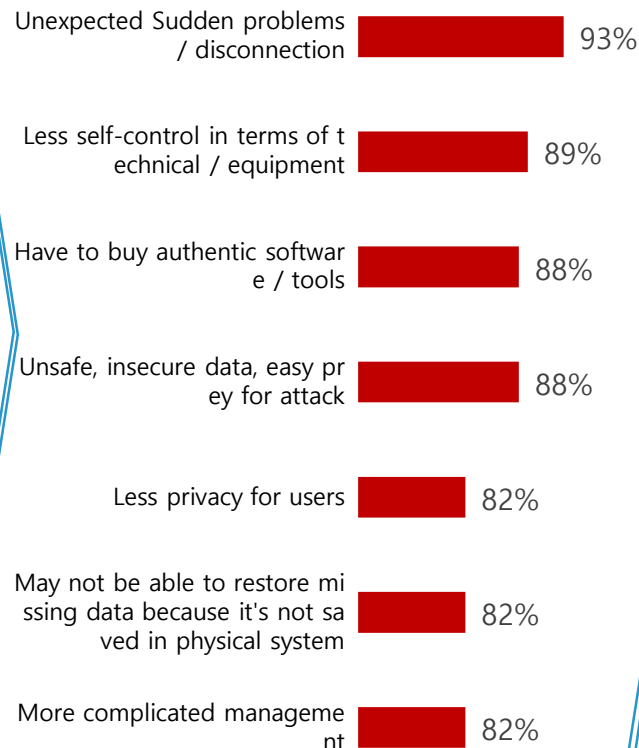
### Concerns of businesses

- Another surprise when asked about advantages / disadvantages of Cloud services, almost all surveyed businesses point out many pros & cons at the same time. It shows that enterprises are still reluctant of doing Cloud services, on one hand they see Cloud's potential; but also concerned about incurring task / problems when they deploy new tools
- Similarly, businesses have a lot of worries about applying Cloud services, from insufficient staffs to macro environment and trust issue. **Noticeably, 82% say traditional means still can manage the work, so Cloud services can wait**

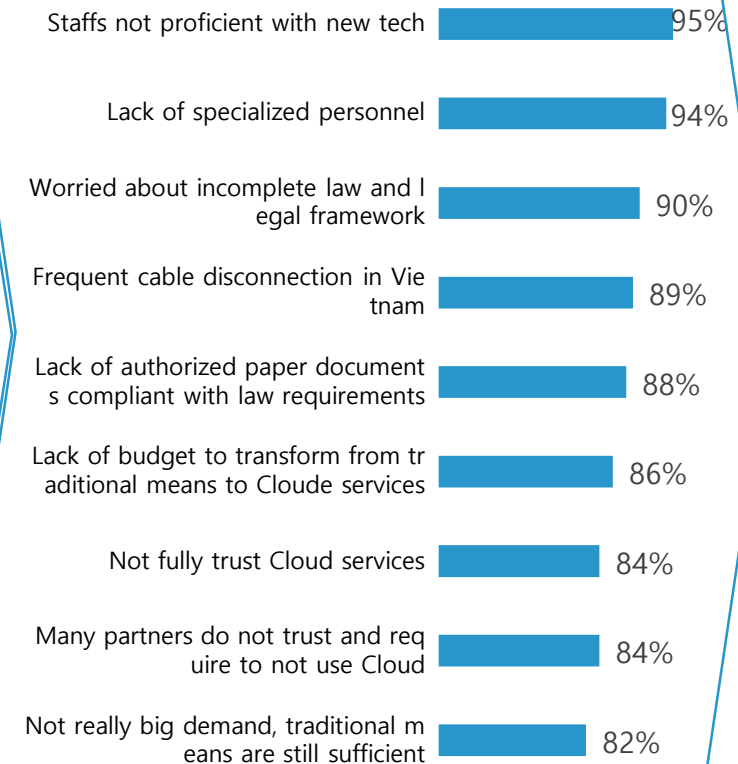
#### How Cloud services can improve business?



#### Worries about Cloud services



#### Barriers to deploy Cloud services

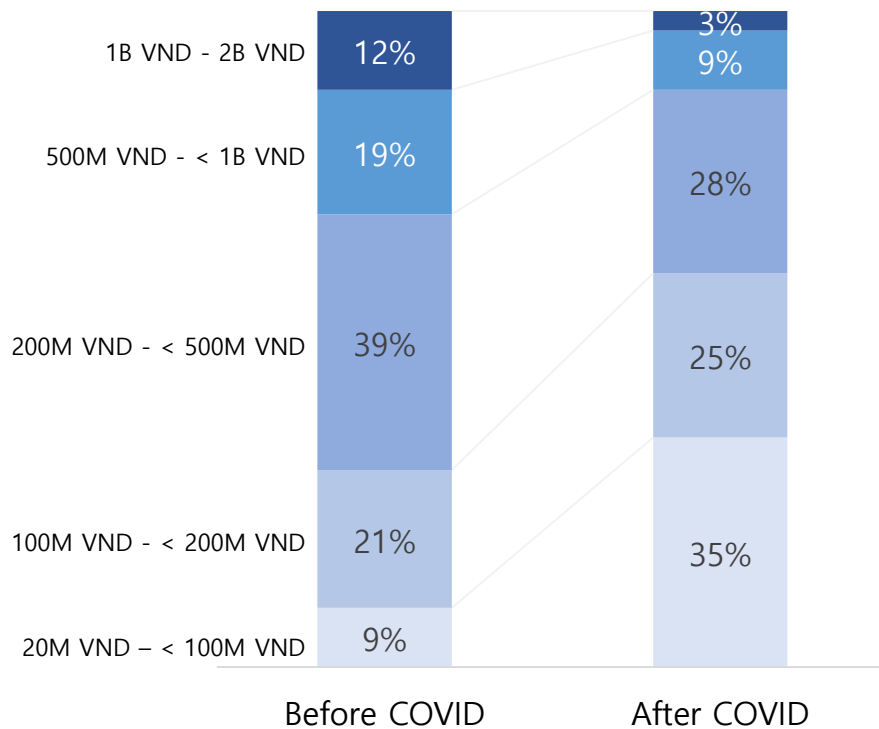


## 02 In private sector

### Cloud service spending

- Although COVID-19 is a great force that pushes Vietnamese businesses toward higher Cloud service deployment, it also leaves a pressure on financial capacity since performance is going down. As a result, budget for Cloud services will drop dramatically over 2 times, from 450 million VND /year (~1,600 USD/month) to 200 million VND/year (730 USD/ month)
- Medium / large sized companies spend over 3.5 times as small enterprises, but also suffer the same regarding budget cut off

Annual spending on Cloud services



Average annual spending on Cloud services by size of business

	Before COVID	After COVID	% change
<b>TOTAL</b>	446 mil VND	200 mil VND	-55%
<b>Small size</b> (annual rev < 10 bil VND)	195 mil VND	78 mil VND	-60%
<b>Medium / large</b> (annual rev > 10 bil VND)	698 mil VND	322 mil VND	-54%

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## 01 Large IT cloud suppliers

### Overall picture

- As reported, Cloud service market in Vietnam is still dominated by foreign suppliers, which account for approximately 80% of the share, while domestic providers only take over the rest 20%
- Vietnam government is trying to power up domestic suppliers, aiming to seize 50% to 70% of the market by 2025

#### SOME OF BIGGEST CLOUD SERVICE SUPPLIERS IN VIETNAM



20% market share



80% market share

## 01 Large IT cloud suppliers

### Domestic suppliers (1)

Vietnamese Cloud suppliers are keeping up with the trend

- **Experts' sharing:** Main reasons why Vietnamese Cloud suppliers are losing share to foreign suppliers:

” Mr. Le Anh Vu, Creativity  
Director, CMC Telecom

” Mr. Vu The Binh, General  
Secretary, VIA

- ❑ Before 2020, government directions, policies and legal framework are unclear
- ❑ Vietnamese IT / Cloud companies are not confident to develop such new solutions
- ❑ Lack of long-term vision, plan, knowledge, experience, resources
- ❑ Foreign services are ready, accessible, no border boundaries / Brand trust is not a big issue

- **Good signs from domestic players:**

- ❑ Government is taking strong actions toward building “Made in Vietnam” cloud services, creating premise for Vietnamese suppliers to thrive
- ❑ Domestic corporations gain more strength and confidence to invest in professional R&D toward Industry 4.0
- ❑ Some domestic players have accomplished certain step-up and closed the gap with foreign competitors
- ❑ In 12/2020, five Vietnamese corporations received certification from Ministry of Information and Communications for qualifying technical requirements to deploy Cloud computing in e-government solutions, which are Viettel Cloud, VNPT Cloud, VNG Cloud, CMC Cloud, BizFly Cloud (VCCorp)
- ❑ However, it is still infeasible to force a rush in a short time. Instead, there should be a long term sustainable plan for Vietnamese Cloud suppliers to grow and gain competitiveness

Five players qualifying for  
developing e-government

**viettel**  
IDC

**VNPT**  
CLOUD

**VNG** CLOUD








**CMC** CLOUD

**Bizfly** CLOUD

## 01 Large IT cloud suppliers

### Domestic suppliers (2)

Some major Vietnamese Cloud / data center suppliers

Supplier name	Start year of Cloud service /data center	No. of Data center	Remarkable milestones / partnerships
 CMC CLOUD	2012	3	<ul style="list-style-type: none"> <li>CMC is the only company in Vietnam connected at the same time with 3 giants Google, Microsoft and AWS, enabling Multi-Cloud directly to 3 above network</li> </ul>
 viettel IDC	2008	5	<ul style="list-style-type: none"> <li>Viettel IDC is also a close partner of Microsoft, Amazon etc.</li> <li>Honored in 2021 Global IT Award for Viettel Cloud IaaS &amp; Viettel IDC Data Center</li> </ul>
 VNPT CLOUD	2015	8	<ul style="list-style-type: none"> <li>In 2020, VNPT got the Smart City Award Vietnam for deploying IT solutions for 30 smart cities in Vietnam, including Hanoi, HCMC, Da Nang</li> </ul>
 VNG CLOUD	2007	2	<ul style="list-style-type: none"> <li>Since 2018, VNG officially switched to offering Cloud services with many active roles, e.g one of founders of Vietnam Cloud computing club</li> </ul>
 Bizfly CLOUD	2012	3	<ul style="list-style-type: none"> <li>Bizfly Cloud is under VCCorp, a multi-media corporation. Bizfly is ranked among TOP “make in Vietnam” suppliers for SMEs digitization &amp; marketing (01/2021)</li> </ul>
 FPT CLOUD	2009	2	<ul style="list-style-type: none"> <li>In 2017, FPT launched FPT HI GIO CLOUD developed in collaboration with IJ (Japan). 2021, FPT started the construction of Vietnam’s biggest Data Center</li> </ul>
 MATBAO	2020	1	<ul style="list-style-type: none"> <li>Mat Bao is a well-known cloud hosting provider since early 2005. Recently, in 2020, the company expanded to build a data server Uptime Tier III</li> </ul>



## 01 Large IT cloud suppliers

### Domestic suppliers (3)

#### SaaS business service

- Although the market is seeing some movements of Software-as-a-Service (SaaS) applications, the wave is still floppy as most of SaaS applied in business are in easy tasks. It requires more time for Vietnamese companies to learn and prepare to adopt SaaS at higher level
- Nonetheless, the potential in future is promising. To keep up with the global pace, more small-and-medium suppliers are joining the market and offering SaaS to their clients with a variety of application levels. That opens up the gate for SME to start experiencing Cloud services at a reasonable price
- At the moment, the most popular SaaS in use are retail and sales management, customer service software, HR, marketing. Some other applications include logistics, cybersecurity

SaaS market is still fragmented with many starters

## 01 Large IT cloud suppliers

### Foreign suppliers (1)

#### Big picture in Vietnam




- “In 2020, domestic enterprises only account for about 20 per cent of the Vietnamese cloud service market while foreign partners hold the remainder.
- Bui Quoc Anh, director at Data Centre – Vietnam National University Ho Chi Minh City stated that the international providers, such as AWS, and Google Cloud have a lot of platforms. It is too difficult for domestic providers to build such platforms because of cost, time, and expertise level.
- However, the international players such as Amazon Web Services, Google Cloud Platform, Microsoft Azure, or IBM Cloud do not officially operate in Vietnam because Vietnam's Network Security Law does not allow, because of data centre locations, although many people and companies use their services.
- He noted that the big barriers for international players are Vietnam's Network Security Law. They cannot provide their services in Vietnam including the public sector, state-owned organisations and big enterprises that work with the public sector. It is challenging for them to open data centres in Vietnam if they do not have enough customers in Vietnam. Maybe, when international companies work in Vietnam, the situation may be changed.”

Source: Vietnamnet

## 01 Large IT cloud suppliers




## Foreign suppliers (2)

Some major foreign Cloud suppliers in Vietnam

Supplier name	Origin	Cloud service offer	Partners / Activities in Vietnam
 Google Cloud	US	<ul style="list-style-type: none"> <li>Since 04/2008</li> <li>Google Cloud Platform (GCP) provides over 90 IT solutions (IaaS, PaaS, SaaS)</li> <li>GCP has different levels for both users (Associate Certification, Professional Certification, G Suite Professional Certification) and for distributors (Member, Partner, Premier Partner)</li> </ul>	<ul style="list-style-type: none"> <li><b>05/2021:</b> CMC Telecom becomes the 1<sup>st</sup> Premier Partner of GCP in Vietnam (each year only 3 % global partners are GCP Premier Partners). CMC also passed GCP Service Partner and now aims to achieve Service Premier</li> <li><b>09/2021:</b> Google Cloud and VinGroup signed a agreement to become strategic partners, GCP will support VinGroup in digital transformation</li> </ul>
 Microsoft Azure	US	<ul style="list-style-type: none"> <li>Since 02/2010</li> <li>Microsoft Azure is exclusive Cloud computing platform for enterprise. It provides a powerful tool for businesses to develop their own cloud solutions as well as perfectly integrate with other Microsoft services such as Office 365, Outlook, SharePoint</li> </ul>	<ul style="list-style-type: none"> <li>In Vietnam, there are a number of companies who have achieved Microsoft Azure's Gold Partner title such as FPT Telecom International, CMC, HPT etc. Noticeably, CMC Technology &amp; Solutions are among TOP 10 partners of 2021</li> <li>Many Vietnamese corporations have built their infrastructure on Azure premise, e.g Big C, VTC Telecom, Vietnam News Agency etc.</li> </ul>
 aws	US	<ul style="list-style-type: none"> <li>Since 03/2006</li> <li>Being one of the first companies to develop and provide Cloud computing services, AWS is now the biggest with over 30% of global market</li> <li>At present, AWS is providing 175 services and solutions for businesses</li> </ul>	<ul style="list-style-type: none"> <li>AWS has been supporting many Vietnamese businesses such as Vietjet Air, Masan, Tiki, Mom o etc. Also cooperate with a number of partners such as FPT Software or lately CMC Telecom to deploy Public services</li> <li>In <b>03/2021</b>, AWS launched AWS Edstart in Vietnam to support and accelerate innovative Edtech start-ups</li> </ul>

## 01 Large IT cloud suppliers

## Foreign suppliers (3)

Supplier name	Origin	Cloud service offer	Partners / Activities in Vietnam
	US	<ul style="list-style-type: none"> <li>IBM first began to develop a strategy for Cloud computing since 2007</li> <li>Up to now, IBM Cloud has expanded, providing more 170 services for B2B. Beside paid account, IBM also offers IBM Free Cloud for individuals, scholars and SMEs with small demands to be able to utilize cloud services in their operation</li> </ul>	<ul style="list-style-type: none"> <li>In 2008, IBM launched a cloud data center in Vietnam, the 1<sup>st</sup> in Vietnam and among 4 of IBM Cloud data centers introduced at that time</li> <li>IBM also partners with Vietnamese companies to provide Cloud services. One typical example is the cooperation with CMC Telecom (2018) to deploy IBM Private Cloud based on CMC multi-cloud platform for e-banking system</li> </ul>
	Germany	<ul style="list-style-type: none"> <li>Since 2012</li> <li>For years SAP Cloud has been concentrating on core services for enterprises which are SAP HANA Enterprise Cloud, SAP HANA Cloud Platform and SAP SaaS. They also provide other compact modules such as Business One ERP for SMEs, or SAP Cloud for Customers (SAP C4C) utilized for mobile devices</li> </ul>	<ul style="list-style-type: none"> <li>SAP has come to Vietnam early since 2010s &amp; established partnership with local companies to implement their cloud solutions. The list of partners include CMC SOFT, FPT, Pythis etc.</li> <li>In 2019, SAP also joined hand with Microsoft in a new project named Embrace to support local businesses with digital transformation</li> </ul>
	US	<ul style="list-style-type: none"> <li>The 1<sup>st</sup> company to offer SaaS since 1999</li> <li>Salesforce specializes in providing on-demand cloud-based CRM (Customer Relationship Management) software for enterprises</li> <li>In 2020 Salesforce spent 27.7 bil USD to acquire Slack with the aim to integrate it in all Salesforce Cloud services</li> </ul>	<ul style="list-style-type: none"> <li>In Vietnam, Salesforce also has a number of partners to distribute their CRM solutions, such as Gimasys, with successful CRM deployment in a plenty of clients e.g Vietnam Airlines, Phu Thai CAT, Techcom Securities, Muaban.net etc.</li> <li>Recently (07/2021) Salesforce entered a deal to support Tiki.vn in digital transformation with their Salesforce Services Cloud</li> </ul>

## 02 Korean participation

## Tightened relationship

- For a long time, Korea has been emerging as a regional strategic economic partner with Vietnam, which can be seen through the foreign capital flow as well as the number of Korean business establishments in Vietnam rising over the years. Largest industrial corporations in Korea such as Samsung, LG, Hyundai, Daewoo, Lotte etc. also are present in Vietnam, as concrete evidence for the collaboration between the two countries
- The cooperation between Vietnam and Korea is taking place in all socio-economic aspects, including inevitable digital transformation movements. Korean partners are proactively accompanying Vietnamese counterparts in technological development, adoption as well as actual implementation of new high-tech business model in localities
- Cloud computing is among a number of activities that Vietnam and Korea are promoting in the time of Industry 4.0, in both government orientation agreements and private sectors

## Some remarkable promotions between Vietnamese and Korean parties

**Nov 2020 – K-Cloud Scale-up Summit 2020**

- Organized by Vietnam – Korea Business & Investment Association (VKBIA) and Korea Ministry of SMEs and Startups, KOFCOA, KOSA and Naver Cloud platform to promote business cooperation between Korea and ASEAN, particularly Vietnam, Singapore, Indonesia

**Dec 2020 – HCMC enhances collaboration with Korea in digital transformation**

- Meeting with Mr. Park Noh Wan, Korean ambassador, about new targets of mutual partners e.g sustainable industries, infrastructure, smart city and digital economy development

**Jul 2021 – Vietnam-Korea Women's Forum discussed about digital transformation**

- Addressed digital applications as core accelerators for women to grow self economic independence and equality – The needs to reinforce the foundation and forces to facilitate digital transformation in economic, social and cultural integration



## 02 Korean participation

### Mutual business activities (1)

- Vietnamese and Korean companies are taking various mutual business actions to enhance cloud service applications



#### Nov 2019 – Viettel IDC and Megazone announced strategic partnership

- Megazone, known as one of largest Korean Cloud suppliers – 1<sup>st</sup> AWS partner in Korea since 2012, announced the cooperation with Viettel IDC to support Korean company to invest in Vietnam as well as to support the acceleration of the transformation of Cloud services among Vietnamese enterprises
- Further collaboration will include the development in digital government, smart cities, smart factories etc. establishment in Vietnam to boost the digital transformation according to the government direction
- Share joint-venture and exchange technologies in regard with AI, Big Data with the aim to build a wide and diversified ecosystem in Vietnam



#### Aug – Nov 2020 – ICT Business Partnership 2020

- 2-month project organized by Vietnam's Ministry of Science & Technology, Vietnam Internet Association (VIA) and Korean National IT Industry Promotion Agency (NIPA), gathered 20 Korean ICT enterprises to exchange with Vietnam counterparts and seek new business opportunities. The event was also attended by many large Vietnam ICT companies, such as VNPT, Viettel, Egroup etc.



- Many enterprises participating the program accomplished mutual agreements. As the result, VIA hosted the Vietnam – Korea ICT day (on 15/10/2020) for signing agreements between the two countries' partners, such as the deal between NetNam, VNETWORK and Kiwontech to build and implement Receive GUARD's email security system for NetNam



## 02 Korean participation

### Mutual business activities (2)



#### Mar 2021 – KT Korea cooperated with FPT Smart Cloud

- KT currently is supplier for 7,000 companies and agencies in Korea
- Through this agreement, KT Korea and FPT will launch JWG – a joint group to conduct market research, identifying the demands and target customers for relevant Cloud, AI, DX business models
- Main objectives are to support Vietnamese businesses and over 4,000 Korean companies in Vietnam regarding digital transformation, as well as to aim at expanding cloud services to other ASEAN countries

yanolja cloud



VNTRAVEL  
GROUP

#### Jul 2021 – Mutual partnership between Yanolja Cloud and VN Travel

- Yanolja Cloud – the Korean travel technology startup announced the agreement with VN Travel (under VNLife – a Vietnamese fintech) to deploy digital transformation in Vietnam by applying Yanolja Cloud technologies to VN Travel's network
- In particular, VN Travel will integrate Yanolja' SaaS solutions for their hotel network which allows real-time connection between hotel management and customers
- In addition, VN Travel will promote Yanolja solutions in Vietnam and connect them with payment solutions such as VNPay

## 02 Korean participation

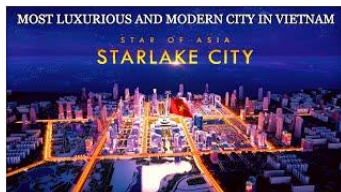
### Mutual business activities

# NAVER



#### Jul 2021 – Naver to open an ICT center in HCMC, Vietnam

- Naver, the top search platform in Korea is constructing an ICT center in HCMC, Vietnam, a step in the program to build a “Global AI research and development rim” in Vietnam
- Key future projects will contribute to grow Naver platforms and applications such as VLIVE, VIBE, Smart Place, NAVER Cloud etc.
- Previously, Naver also announced the cooperation with Hanoi University of Science and Technology and Posts and Telecommunications Institute of Technology to open an international research Center about AI in each university



#### Jul 2021 – Korean companies to invest in Smart cities in Vietnam

- Daewoo E&C Vina has come to a deal with SparkLabs Korea and Bespin Global to develop foundational solutions for smart cities in Vietnam. Each company will be specializing in a particular task during the joint project
- Daewoo E&C will be in charge of building a smart operation system, while Bespin Global will build a cloud-based infrastructure and draw innovative R&D hubs. At the same time, SparkLabs will be responsible for calling for investment and capital to accelerate progress
- At present, the 3 companies are experimenting the plan for Starlake City project in Hanoi

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## 01 Executive summary

## Key take-aways

## THE TRENDS IN THE WORLD

- Cloud computing and Cloud services have been coined for over 20 years since early 2000s, and are developing at a fast pace, with the leading positions among economic giants namely US, China, UK, Germany, Japan etc.
- Currently, the market is dominated by a couple of largest international corporations such as Amazon, Microsoft, IBM, Google etc. Aside of that, there are numerous providers with different size and service package, but competitiveness and seizure is much less than big brands
- Cloud services utilization level is also varied by industries and sectors, with stronger pioneers in professional services, banking etc. Many governments are issuing directions for cloud development aligned with Industry 4.0

## VIETNAM SITUATION

- Vietnam is addressed as one potential country with high growth rate of Cloud computing. However, although a few suppliers realize the trend and start to prepare soon, Cloud service application in Vietnam is still considered late
- One big bottleneck is the lack of government policies and legal framework. In fact, not until 2020 that more documents are announced and provide more clear guidance for enterprises. Nonetheless, thoroughly assessed, Vietnam's macro environment is still not ready for Cloud computing. Hence, more time and effort are utterly required for improvement
- From user side, Cloud services are gradually gaining recognition for its potential. On the other hand, businesses are reluctant to adopt entirely new technologies, as they do not fully comprehend them, as well as the lack of fund for new system construction and lack of specialized staff. The incomplete of regulations is another reason for the delay. At the same time, Covid-19 gives a kick to switch to online platforms, but also force enterprises to cut down costs on that
- From supplier side, Vietnamese domestic providers are taking more strong actions to close the gap with foreign companies, but the advancement is still caught more visibly among large corporations e.g Viettel, VNPT, CMC, FPT etc. It is predicted that international suppliers will continue remaining market domination for a while
- Korea is one of proactive participants in Vietnam cloud service development, with a number of activities to accelerate the progress in both public and private sectors

# THANK YOU

