

18 May 2020

To

H.E. Nguyen Manh Hung

Minister of Information and Communications
Ministry of Information and Communications (MIC)

Subject: Industry Submission on Guidelines on Technical Criteria and Specifications for Cloud Computing Solutions for E-government (“Guidelines”)

Dear H.E. Minister Nguyen Manh Hung,

The [Asia Internet Coalition](#) (“AIC, us, we”) comprise of the world’s most innovative companies, representing every part of the technology sector. AIC seeks to promote the understanding and resolution of Internet and ICT policy issues in the Asia Pacific region. Our member companies would like to assure Ministry of Information and Communication (MIC) that they will continue to actively contribute to the security of digital platforms, products and services in support of the digital economy goals of Vietnam.

For all of us, Vietnam is an essential market, and we are substantial contributors to a vibrant Vietnamese information and communication technology (ICT) sector. These are exceptionally challenging times globally for individuals, governments, and businesses. We appreciate that the current priority of the Government of Vietnam, and of governments around the world, must be to mount the strongest possible economic and public health response to the outbreak of COVID-19.

On April 3, 2020, the Ministry of Information and Communication (MIC) issued [Official Letter No. 1145/BTTTT-CATTT stipulating guidelines on a set of technical criteria and specifications for cloud computing solutions for e-government deployment \(the “Guidelines”\)](#). As per the letter the State agencies and organizations will rely on these Guidelines to assess and select cloud computing services for the development of e-government. Private-sector entities are also encouraged to refer to these Guidelines when setting up and deploying their own cloud computing platform solutions.

While we support these efforts to develop a legal framework on cloud computing, we express our concerns and recommendations on the requirements proposed under the Guidelines. As technological advancements continue to evolve and become more sophisticated so do the threats. This rings particularly true given the current COVID-19 pandemic, due to which a great deal of our lives and businesses have been moved online and cloud-driven services provide companies with the flexibility and reasonable cost structure to scale up or down according to their business needs.

As such, please find appended to this letter detailed comments and recommendations, which we would like MIC and other relevant agencies to consider. We are grateful to MIC for upholding a transparent, multi-stakeholder approach in developing this implementation decree.

Should you have any questions or need further clarification, please do not hesitate to contact me directly or our Secretariat Mr. Sarthak Luthra at Secretariat@aicasia.org or +65 8739 1490 or +84 165 839 0988. Furthermore, we would also be happy to offer our inputs and insights on industry best practices, directly through meetings and discussions and help shape the dialogue for the advancement of the digital economy goals in Vietnam.

Sincerely,



Jeff Paine
Managing Director, Asia Internet Coalition (AIC)

Cc:

H.E. To Lam
Minister of Public Security
Ministry of Public Security (MOPS)

H.E. Ngo Xuan Lich
Minister of Defence
Ministry of Defence (MOD)

Mr. Nguyen Minh Chinh
Director of the Department of Cybersecurity and High-tech Crime (A05)
Ministry of Public Security (MOPS)

Detailed Comments on Guidelines on Technical Criteria and Specifications for Cloud Computing Solutions for E-government (“Guidelines”)

A. General Comments

We understand that cloud computing is considered the new generation telecom infrastructure. In this regard, the issuance of the technical criteria and specifications for cloud computing solutions aims to encourage Vietnamese IT businesses to develop their own core technologies.

State agencies and organizations will rely on these Guidelines to assess and select solutions or lease cloud computing services for the development of e-government. While, private-sector entities are also encouraged to refer to these Guidelines when setting up and deploying their own cloud computing platform solutions, we would like to convey the following:

1. Firstly, given the language drafted in the guidelines, we are of the view that the indented objectives and goals of guidelines may not be fully achieved. The guidelines appear to not create an auditable standard that can be applied whether entities are building their own cloud, a private cloud or are used to certify Cloud Service Providers (CSPs). Nor does the guidelines achieve the goals of the desired standard, which is to enable Vietnamese government to choose the best technologies available for years to come.
2. The guidelines are heavily focused on legacy technology stacks (for example, VMs and basic compute) rather than newer technologies, which include containers and microservices. Multi-cloud optimization is best achieved by container technologies such as kubernetes, but this is absent from the existing guidelines.
3. The guidelines are heavily focused on Openstack as their model and it goes very deep into openstack-only configuration files, mandating configuration settings which simply does not translate to other providers.
4. The guidelines stresses on leveraging obsolete technologies and operating system support and appears to be mandatory, for example Windows 8.
5. While, we believe that the guidelines in its current for definitely has its merits, we strongly recommend that the Guidelines should be segmented into:
 - a standard (which is not proscriptive for specific technologies or protocols); and
 - configuration guidelines (which category Appendix 2 should fall into). Appendix 2 related to Group 2 sets out the minimum technical criteria and specifications for information security of cloud computing infrastructure. Group 2 includes requirements related to: (1) basic requirements on information security features and (2) requirements for setting up security configurations for cloud computing infrastructure.

B. Specific Comments

1. Section 3 (3.1.19)

3.1.19: Deploy virtual machines that need to use accelerator technologies

Supports NUMA and Transparent Hugepage configurations, PCI Pass through, SR-IOV, OVS-DPDK, CPU pinning, DPDK and Direct I / O when deploying virtual machines that need accelerator technologies.

Recommendations: We suggest removing openstack specific terminology such as found in 3.1.19
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2. Section 3 (3.3.28, 3.4.2, 3.4.3, 3.6.1, 3.6.3)

3.3.28: Support functions of virtual switches and virtual routers

Support SPAN, RSPAN or equivalent; LACP (mode 1, 2, 3, 4) from virtual machine, physical machine, 802.1Q VLAN with trunking, multicast snooping, LLDP, STP, RSTP, quality of service management (QoS), VXLAN.

3.4.2: Deploy multiple versions of Windows and Linux operating systems to physical server

Allows deployment of multiple versions of Windows and Linux operating systems for physical servers including: Windows 8 and 10, 2012 and 2016, Ubuntu 14.04, 16.04 and 18.04, CentOS 6.x and 7.x, RHEL 6 and 7, Oracle Linux 6 and 7 and current versions of the operating systems listed above.

3.4.3: Administration through separate signal channels (out-of-band)

Allows administration via separate signaling channels using platform management interfaces such as iRMC, iLO, IDRAC, UCS and other equivalent interfaces.

3.4.5: Configure backup mechanism for hard drives on physical servers

Allow users to configure RAID on physical server.

3.6.1: Integrating the interactive interface with the virtual network function management component (VNF)

Provides integrated interface integration features with VNF components from many brands (such as Nokia, Ericsson, Huawei, ZTE, ...) that follow the ETSI MANO architecture to support VNF lifecycle management as well as the ability extend.

3.6.3: Library support for programming, developing interactive software with the system

Provides support for libraries (open source or self-created cloud provider) for programming, developing interactive software with the system as compatible with

popular Java programming languages, .NET, Perl, Node.js, PHP, Python, Ruby and PowerShell.

Recommendations:

- Technologies and protocols are continuously evolving. For a given customer a protocol may not be relevant, but they may not be able to choose the best vendor for them as the standard may have failed a provider who does not support an obsolete protocol. Such provisions should be removed. Importantly, all of the technologies listed should be explicitly listed as examples or guidelines, and not mandatory: see the details in Sections 3.3.28, 3.4.2, 3.4.3, 3.6.1, 3.6.3.
- A number of the requirements listed in the sections above are simply out of scope of a cloud service provider, and we suggest having a method to not evaluate the CSPs on out of scope provisions, such as 3.4.3-3.4.5, because users cannot access bare machines in a CSP environment.

3. Appendix 1: Criteria and minimum technical indicators for cloud computing infrastructure

Annex 1 related to Group 1 sets out the minimum technical criteria and specifications for cloud computing infrastructure, and sets out a table to describe features, criteria, and specifications for each specific feature. If a feature has only one criterion or technical specification, a cloud computing solution is evaluated as “passing” when the solution provides that feature and “not passing” if the solution does not provide that feature. If a feature has many different criteria and specifications, that feature is evaluated as “passing” when all criteria and technical specifications are met or “not passing” when at least one of the criteria or technical specifications is not achieved. Group 1 includes criteria, specifications, and features related to: (1) virtual machines, (2) storage devices, (3) networks and software-defined networking, (4) physical machines, (5) administration and operation, and (6) integration and other relevant requirements.

Recommendations:

Section I: Virtual Machine

- #4 - #6: Specific file formats should not be listed, as they may become obsolete or unsupported for multiple reasons.
- #19: Specific technologies and protocols should not be listed, as they may become obsolete or unsupported for multiple reasons.

Section III: Networks and SDN

- #16: Specific technologies and protocols should not be listed, as they may become obsolete or unsupported for multiple reasons.
- #28: Specific technologies and protocols should not be listed, as they may become obsolete or unsupported for multiple reasons.

Section IV: Physical Machine

- #1: Operating systems and versions should not be listed, as they may become obsolete or unsupported for multiple reasons.

- #3: These technologies should not be listed, as they may become obsolete or unsupported for multiple reasons, and may not be supported in CSP environments.
- #4: Out of scope in CSP environments.
- #5: Out of scope in CSP environments.

Section V: Administration and operation

- #8: Requirement 5 is Out of scope in CSP environments.

Section VI: Integrate

- #1: Specific technologies and protocols should not be listed, as they may become obsolete or unsupported for multiple reasons.

Section VII: Other requirements

- #1 Out of scope for CSP and many build their own hardware or extensively customize commercial hardware

4. Appendix 2: Minimum technical criteria and specifications for information security of cloud computing infrastructure

Annex 2 related to Group 2 sets out the minimum technical criteria and specifications for information security of cloud computing infrastructure. Group 2 includes requirements related to: (1) basic requirements on information security features and (2) requirements for setting up security configurations for cloud computing infrastructure.

Recommendations:

We suggest removing all the provisions from Section 2.2 onwards, as they are purely configuration parameters of openstack, and are unsupported by the CSPs.

End of Submission