

Green Paper of "Internet of Things"

By

Umniah

Abstract

First of all, we would like to thank the Telecommunications Regulatory Commission for the dedication in following up on all the market trends and future technologies being one of the first to issue a consultation on the "Internet of Things" in the Middle East. We are confident that under your patronage, the Jordanian telecommunications market will achieve new heights within the domain of M2M & IoT.

We are happy to put in your hands our feedback hoping to have an open discussion by arranging a meeting to discuss the last developments in the telecom field covering the IoT world.

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1. Is the definition of IoT mentioned previously complying with your vision and the services you provide? If not, please elaborate.

From an Umniah standpoint, we consider IoT as the natural evolution of M2M where the demarcation is in the access technology that is being used. To be exact, M2M is used to refer to communication between devices or machines over 3GPP standards whereas IoT is used for other access technologies (i.e. non 3GPP standards) such as WiFi, RFID, and LPWAN (LORA, SIGFOX)...etc.

The above definition will form the grounds on which all of the below questions are answered.

- 2.1 Do you offer any IoT services in the Jordanian market?

At the moment we do not, though we are always looking for the right opportunity.

- 2.2 Do you have future plans to offer new IoT services in Jordan? What services? And timeframe? Please elaborate.

Umniah is keeping a close eye on all the developments within the IoT domain in Jordan and is engaged on multiple fronts in order to zone in on a demonstrable and feasible use-cases. Accordingly, the timelines are tied to when a viable opportunity presents itself.

Below are a couple of the potential use cases that we are exploring within the IoT world:

- Environmental Management: Sensors that are deployed to measure key environmental stats
- Transport: Solutions that will address traffic optimization and public safety/accidence avoidance among other issues.
- Smart Homes and buildings: enabling customers to control their homes and electric devices virtually through mobile applications or wireless sensors
- Health: preventive and monitoring health solutions to diagnose health issues and monitor readings remotely

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3.1 What are your expectations to the IoT traffic capacity in Jordan for the next 5 years.

Consumer based IoT implementations will own the majority of traffic unless a compelling use case presents itself.

3.2 In which fields of implementation it's expected to have the highest "data interaction" traffic and which is expected to be the lowest?

This will all depend on the nature of the use case, sensor based implementations with far time intervals for readings will most likely generate the lowest data whereas media based implementations will generate the most.

3.3 Please arrange the above-mentioned challenges in terms of limiting the IoT wide implementation, from the most effecting factor to the least. Please justify and elaborate.

Latency, spectrum, & reliability along with the economic factor are the most important general challenges.

3.4 Are the data rates offered in Jordan sufficient to handle the IoT traffic especially for time-sensitive services?

If by data rates we mean bitrates, then the offered data rates are fine for the foreseeable future

3.5 please suggest at least three categories that classify the services that reflects reliability levels that can be needed.

N/A

3.6 please classify the services in term of latency acceptance ranges.

N/A

3.7 Please list any further challenges that might affect the implementation.

N/A

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4.1 Do you think that at the current stage of time there should be a specific regulation for IoT and M2M?

Given the vast world of IoT and that there are still quite a lot of variables in terms of standards, vendors and technologies; we believe that room should be given for the market to innovate freely.

4.1.2 From your point of view:

- What is the possible solution for handling the IoT issues at the current stage?
- Do you think that TRC should deal with the impacts of IoT services on security, privacy, numbering, spectrum, and competition and be ready if companies chose to provide them at large? Or not doing anything until these issues become mature and regulated globally?

Competition within the market will ensure that the best of breed prevails which in turn will cater for most of the issues that are facing IoT.

4.2 How can you solve the above-mentioned challenges that face consumers?

The market should be able to weed out any IoT implementations that are not up to par, having said this, tight security standards on IOT devices are always merited.

4.3 What indicators and when do you think is the right time to regulate IoT?

Given that IoT (i.e. Non 3GPP standards) have matured, we believe that it is important that we introduce regulations to ensure that these new technologies and their associated risks are addressed.

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4.4 Do you think at the current stage if time an intervention by TRC should be taken to regulate licensing and spectrum management to enable/allow providing IoT service in the kingdom through allocating spectrum for IoT Services?

There is no need for intervention for 3GPP based technologies as they fall under the existing regulations, , we think for the non 3GPP band there should be regulations.

4.5 When the review should take place to specify the need of taking an action?

The sooner the better to kick off the discussion.

4.6 If you are offering or planning to offer IoT services in the Jordanian market, please list what type of connectivity methods and technologies you are using (or will use)?

Technology decision not taken yet, this will be further assessed and decided on once a clear use case presents itself.

4.7 Do you think that the spectrum and backhaul capacity you have will meet the demand of the IoT needs?

Depends on forecast, which is not available yet.

4.8 Regarding the millimeter wave bands, do you think they will be useful and meet the requirements of IoT?

This will depend on type of regulations and market needs.

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4.6 When do you think such development of mobile networks as mentioned previously (in section ii switching and roaming) will be needed in Jordan?

This will all depend on market needs.

4.7 Is there any need for a regulatory framework by the TRC to regulate the IoT roaming issues?

Yes, most importantly to address the issue of permanent roaming.

4.8 Do you think that the current signed roaming agreements are appropriate to encourage IoT services in Jordan? Or do those agreements need update?

IoT and M2M prices will differ prompting an update.

4.9 Is your company willing to dedicate SIMs for M2M communications? If yes, will the cost rates vary from normal roaming services?

If the need arises for dedicated M2M SIMs, then for sure we will. Cost of M2M roaming should be different from normal roaming service.

4.10 Is there any need to draw a distinction between person-to-person communications and IoT connected devices in terms of roaming?

Yes, there should be a distinction between M2M roaming and legacy roaming service.

4.11 Is there any need for the TRC to intervene in switching process, mechanisms, switching mechanisms, and cost for the purpose of achieving a competitive market for IoT services? If not, more explanation is needed.

The process of switching should be smooth and easy and keep the rights for operators nevertheless; we do not think that TRC intervention is merited yet.

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4.8 When do you think that regulating market competition issue of IoT in Jordan will be a critical issue?

We believe that starting the discussion now is a good time for regulations in order to avoid any risks associated with the lack of regulations.

4.9 Are the competition regulations in Jordan sufficient to handle the above IoT issue? Or a modification on the current regulations is needed? or a new separate regulation for the competition in IoT issues should be adopted

New non-3GPP based regulations should be considered.

4.10 Is there a need for issuing market structures and pricing schemes that defines IoT service pricing and describing how IoT can drive competitive advantage through better information and more localized decision-making? Please elaborate.

It is too early to judge on what these structures would be.

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4.11 Do you have a policy for visibility and secure management of "Things" on your network today?

Information security management system is implemented in Umniah in order to secure all elements, and will be updated in order to cover internet of things.

4.12 Are you collecting management or visibility information from the "Things" on your network?

All servers, services and devices are sending their logs to the centralized log management system in order to be analyzed and maintained.

4.13 How are you collecting security and operations data about "Things" on your network?

Through the Centralized, log management system.

4.14 How would you rate your ability to provide security to the "IoT" services?

Between the IoT security standards and Umniah's up-to-date security elements and controls to protect its environment, we can say that we are able to provide security to the IoT services.

4.15 What controls do you plan on deploying in the next 5 years to protect against security risks?

We have a yearly updated risk management framework and the plan is being developed according to the top 10 risks matrix.

4.16 What do you think the greatest security threat to the IoT will be over the next 5 years?

Simply that there is yet no consensus on how to implement security in IoT on all of the various devices.

4.17 Who should take responsibility for managing the risk imposed by new "Things" connecting to the internet and the local network? And when is the best time that to issue a regulation to protect security?

For 3GPP based technologies, the frameworks are in place as such mitigating any security risks. For non 3GPP based technologies, all issues should be considered before launching such services, and the responsibility are jointly shared between the service provider and the manufacturer of the IoT devices.

4.18 Do you think that there is a need for security protection regulation to be issued in the current time?

For 3GPP based technologies, the frameworks are in place as such mitigating any security risks. For non 3GPP based technologies, all issues should be considered before launching such services.

4.19 Do you think that securing policies IoT will demand to restructure your current organization's security policies and directives? If yes, please explain how. If No, how you are planning to handle IoT services and devices security?

Security policies need to be updated to cover IoT, no need to restructure all organizations security policies.

4.20 Are you dedicating Gateways, IPS, and Network monitoring systems to your connected "Things"? or you are utilizing your current network infrastructure and systems?

N/A, no deployments yet.

4.21 What kind of encryption algorithms your organization uses for your network communications?

N/A, no deployments yet.

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4.19 Do you have a policy for data privacy and protection of "IoT" services today? If yes, how do you apply this policy? And do your consumers aware of such policies?

Yes, the policy is published to employees and enforced, disciplinary actions are being taken in case of misuse.

4.20 How would you rate your ability to protect privacy of the "IoT" data?

Since Umniah have up-to-date security elements and controls to protect its environment, we are able to protect privacy of the IoT data.

4.21 What controls do you plan on deploying in the next 5 years to protect data privacy?

We have a yearly updated risk management framework and needed controls are being developed according to the top 10 risks matrix

4.22 Do you think that there is a need for data privacy protection regulation specific for IoT services to be issued?

No

4.23 From your point of view, do you think customers and end users should have any assurance of privacy when subscribing to IoT services? If yes, please mention how should this be achieved, if No, please elaborate.

Yes, this all depends on the nature of the service and the data being communicated

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4.23 If you are providing IoT services, what do you are using to differentiate the numbers used for IoT services-Is there any specific numbers or ranges for IoT services- please list it if any?

Non 3GPP IoT services are not provided yet

4.24 Do you think that there is a need for specifying a numbering range (in the National Numbering Plan) for IoT services in the current time? If yes, please suggest a numbering range for IoT service.

Yes, there is a need.

4.25 Do you think that the late migration to IPv6 will limit the IoT expansion?

No, not at first stage

4.26 Do you agree to use a specific code (MCC) in IMSIs permanently for M2M service abroad?

Yes

4.27 In case MVNO, what are your arrangements to enable them to use your network to provide the IoT services to their customer inside the Kingdom and outside?

From Umniah point of view MVNO specialty is a separate and different issue from IOT regulations. Regardless the requested services, MVNOs should be treated as per the existing frameworks for MVNOs.

4.28 What is the percentage of internet addresses using version six that are used to provide IoT to those using version four in your network?

Not Applicable

4.29 List and clarify the percentage of the IoT service interim their identifiers that used by your network (IP address, MAC address ...) to provide IoT services?

Current use services are M2M services that is using the same traditional data network (Low scale) therefore still not having an IOT services.

4.30 Any recommendation about the addressing and numbering for IoT services provided by Non-Telecommunication licensed companies.

Numbering is a scarce resource, and any one must have an individual license from TRC in order to get it, and anyone want to provide the service from the non-telecommunication licensed then it should be gotten through one of the telecommunication companies (operators).



الرقم ظ/٤/١٧/١ / ٥٣٠٤

التاريخ

الموافق ٢٠١٧/٠٦/٣٣

السادة شركة /

الموضوع: تمديد فترة الاستشارة العامة
حول (Internet of Things)

إشارة إلى الموضوع إعلانه، ولاحقاً لكتابنا رقم (ظ/٤/١٧/١/٤٦٨٨) بتاريخ (٢٩/٥/٢٠١٧) والمتضمن تمديد فترة الاستشارة المتعلقة بالوثيقة الاستشارية المعنونة بـ " Green Paper of Internet of Things " ؛ ونظراً لاستلام طلبات بخصوص تمديد فترة الاستشارة من قبل العديد من المرخص لهم المعنيين بهذا الخصوص وحاجة الشركات الى التخطيط لعملياتها في السوق بناءً على مخرجات هذه الاستشارة؛ فيرجى العلم بأنه تقرر تمديد مدة الاستشارة العامة لمدة شهر إضافي تنتهي بتاريخ (٢٩/٧/٢٠١٧).

وتفضلوا بقبول فائق الاحترام،

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الرئيس التنفيذي
الدكتور المهندس غازي الجبور

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نسخة: الدائرة التنظيمية
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S.A

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