STUDY ON TECHNICAL ASPECTS OF SERVICES PROVIDED UNDER INTERNET ACCESS AND PROPOSE A REIMBURSEMENT RATE

Secretariat Issue Paper # 9 – Mandated Study

Issue Paper Theme: **Self-Sustainment**

BACKGROUND

The 2020 Contingent-Owned Equipment (COE) Working Group recommended that the Secretariat conduct a comprehensive study on the technical aspects of services provided under Internet access, such as data for each individual, and propose a reimbursement rate that is feasible for most contingents deployed across all the peacekeeping missions so that due consideration to increasing the reimbursement rate for Internet access can be given in the 2023 Working Group *(A/74/689, Para. 67(b))*

The Secretariat conducted a comprehensive study and consultations with peacekeeping missions based on the above recommendations. This study investigated the provision of Internet access by both the UN Secretariat and the Contingents.

PROPOSAL

The provision of Internet services for UN missions and other entities has always been a complex yet essential undertaking. It has become one of the main measuring points (and heavily weighted) on any survey of the quality of ICT services. Providing internet services to contingents with diverse deployment factors, including locations, size, duration, etc., is even more complex.

This Issue Paper will try to navigate this complexity and address the core issue of providing suitable internet service to each TCC/PCC personnel at a feasible reimbursement rate for most contingents deployed across all the peacekeeping Missions.

Service provision - Factors to be considered

Factors to be considered in the provision of suitable internet services at a feasible reimbursement rate include:

1. The local ICT infrastructure at some locations, including Internet services, may be poor to non-existent.
2. The variety of global and regional locations deployed by PKOs and associated of ICT infrastructures and commercial Internet Service Providers (ISP).
3. The variety of mission locations at which contingent personnel is deployed: Mission HQ, Regional HQs, Team Sites, FOBs, TOBs, etc., including whether TCC/PCC is co-located with other mission components.
4. The variety of configurations in which contingent personnel is deployed: battalion, company, platoon, etc. In some cases, a battalion can be deployed across several locations making it challenging to

provide Internet services to such remote areas. This will result in a relatively higher per-person cost for small remote sites compared to larger battalion-level deployments.

5. The technological changes since fixed-type Internet Café was the mainstay of welfare internet to the current extensive use of personal wireless mobile devices such as smartphones, tablets, laptops, etc. Therefore, this Issue Paper will focus on providing access to a wireless network with users' personal devices rather than a fixed location with computers, printers, etc.

6. The variety of IT applications being used for connection to friends and family for social activities and to applications for business such as banking, purchases, funds transfers, etc.

7. In addition to simple text messaging, most users communicate using voice and video applications such as WhatsApp, Facetime, Facebook, Viber, Signal, and Skype.

8. The understanding is that welfare internet for all does not mean concurrent connections for all nor unrestricted access to all IT applications despite the bandwidth requirements of each application.

9. The wide range of possibilities for IT applications and concurrent users makes estimating a standard per person data rate more challenging.

The Secretariat solicited inputs from peacekeeping missions regarding the availability of suitable Internet Service Providers (ISP) in the missions Area of Operations (The information and feedback received from the field missions helped inform this issue paper). *Note: There is an ongoing solicitation by the Secretariat for the provision of Internet Services over Satellite which could provide more options and changes in prices.*

In most missions, Welfare Internet services are provided by the TCC/PCC as part of the self-sustainment with, at times, some technical advice from the missions' Field Technology Section (FTS). However, in UNISFA and UNDOF, the mission provides all the internet service to the contingents, while MINUSMA started providing Welfare internet to most contingent personnel during the COVID-19 pandemic.

One overarching factor in the missions' feedback is that the current reimbursement rate of $4/person/month for Internet access under self-sustainment is insufficient to provide the Internet services, even under the best conditions. Although costing the contingents more than the self-sustainment rate of $4, most of the locations surveyed, indicated overall dissatisfaction with service quality due to unreliability and slow internet service.

Slow and unreliable internet service can be attributed to several factors, including:

1. Too many concurrent users. The impact can be reduced by implementing relevant policies, personnel, and software applications.

2. Use of heavy bandwidth applications, especially video-based ones.

3. The quality and suitability of the contracted Internet services. The lower-cost Internet services from ISPs are based on a shared-bandwidth type of service with relatively high contention ratios. Contention ratios indicate the number of subscribers (could be even other TCC/PCC) sharing the same bandwidth. *A contention ratio of 1:1 indicates that you are the only person assigned the contracted bandwidth. A contention ratio of 1:4 indicates that 4 other subscribers share the contracted bandwidth. You are only guaranteed 25% with the ability to burst to 100% if no other entity is using any bandwidth.*

4. Unreliable and low-rated Internet Service Providers (ISPs). Factors such as unreliable ICT network infrastructure, poor technical support, provision of less than contracted bandwidth, bottlenecks on the gateway to the global internet services, etc.

Cost Estimates – factors considered

Services via Internet Service Providers: In some cases, the TCC/PCC will bring their equipment as part of the COE. However, in most cases, the Internet service is provided by Internet Service Providers (ISP) via very small aperture satellite terminals (VSAT). In addition, a Local Area Network (LAN) with wireless access will be required

and may be supplied by the ISP. The cost of the equipment plus freight and installation and commissioning will be a capital investment at the outset, followed by Monthly Recurring Charges (MRC) for bandwidth usage.

The recurring bandwidth cost for Internet services ranges from $200/Megabits per second (Mbps)/month to over $1300/Mbps/month. Services over satellite are more expensive than Fiber Optic cable, but the latter is available mainly in some mission HQs and regional HQs. Similarly, the average equipment cost widely ranged from $2800 to over $13,000 per site, depending on the Internet Service Provider (ISP) and site location (Note: these prices are for non-UN standard equipment).

Internet service via mobile (cellular) data: Internet service provision from mobile (cellular) phone companies is available in some locations, and the service can either be provided directly to each user or to a central access point to be shared by multiple users similar to that of other Internet service providers (ISP). However, the pricing method is typically based on data packages (Megabytes – MB). For example, 2 MB, 4 MB, 6 MB, 19 MB, etc. Cellular data and rates are normally available in capitals and larger cities and towns. Typically, the price is higher than that of regular ISPs. The monthly cost for data to mobile phones starts at about $19/month for the lowest level of service and usually is unavailable at remote locations mainly due to economic factors.

Internet service via Satellite phones and terminals: In some cases, the smaller remote locations, including some Temporary Operating Bases (TOB), may be best served by satellite phones and terminals with data capabilities, but for temporary and short periods due to the relatively high cost. Deciding factors include the temporary nature and sizes of these sites, the remote locations, the challenges faced with stable and consistent electrical power supplies, etc. Like Internet service via mobile (cellular) phone systems, pricing is via data packages in Megabytes (MB) but is more expensive than cellular data. These costs were not factored in the cost estimates in this Issue paper.

Temporary Operating Bases (TOBs): By their nature are TOBs are temporary, and the provision of communication equipment should be satellite based, rather than using more fixed infrastructure solutions. This includes the provision of welfare internet services for troops deployed to TOBs which will likely limit the scope of internet welfare services that can be access in these locations.

UN-Provided:

The estimated average cost per month/per user ranged from $13.40 to $32.87, giving an overall average of $19.19/user/month

TCC/PCC Provided:

The estimated cost ranged from $21.23 to $32.87 per user/month, giving an overall average of $25.17

PROPOSED MANUAL TEXT

It is proposed to amend COE Manual, Chapter 3, Annex B, Appendix 2 as follows:

Guidelines for Internet access

~~The guide below is based on a battalion of 800 personnel deployed in up to three locations.~~

~~Equipment~~	~~Quantity~~
~~Internet access equipment~~	~~3~~
~~Computers~~	~~7~~

~~Printers   3~~

~~Appropriate levels of maintenance, spare parts and bandwidth for the equipment mentioned above~~

Whether deployed at a battalion or company level, the TCC/PCC is to ensure internet access for welfare purposes to its personnel if agreed in the Memorandum of Understanding between T/PCC and the UN. The guidance for the provision of Internet access is based on the availability of wireless Internet access service to the contingent members rather than on the provision of equipment. The internet service provision should form an integral part of the Memorandum of Understanding (MOU) between the TCC/PCC and the field mission. Before deployment, the field mission will provide the relevant local information based on planned deployment regarding the available Internet Service Providers to enable the TCC/PCC to adequately prepare for providing Internet services to its personnel. This plan will be reviewed as part of the Pre-Deployment Visit (PDV) to ensure feasibility and the expected level of service.

The TCC/PCC can either bring its own equipment and arrange service provision and/or engage Internet Service Providers (ISP) to provide service, including equipment, if preferred. The peacekeeping missions will conduct regular monitoring to ensure that the planned service is being provided at the expected quality of service.

Subject to the Working Group's consideration, any new proposed self-sustainment rate for Internet will need to be amended within Annex B of Chapter 8 of the COE manual.

FINANCIAL IMPLICATIONS

The study presents the cost of internet when provided by T/PCC **(overall average of $25.17)** and by the UN (**overall average of $19.19/user/month).** The study also highlights the fact that the current reimbursement is $4 USD per person. For discussion and consideration of the WG.

PREVIOUS HISTORY

In 2008, the COE Working Group recommended the addition of a new self-sustainment subcategory, Internet access, with a monthly per person interim rate of $2.76 and established a guide to the standard required for providing Internet access, including a list of equipment. (A/C.5/62/26, para.93-96, p.24/163).

In 2014 during a prolonged discussion on the provision of Internet access, some Member States expressed concerns over the relatively high financial implications of providing internet services. The Self-Sustainment Sub-Working Group subsequently advised that the United Nations was then undertaking a survey to assess the costs of providing internet communications to all peacekeeping missions, the results of which were to be presented at the end of 2014. It was generally felt that the issue should be deferred to benefit from the survey. (A/C.5/68/22, para. 121, p.32/86).

In 2017 the COE Working considered two proposals. A combined proposal detailed that the provisions of Internet services should be split from the provision of the equipment for Internet access, whereby the service would be the United Nations' responsibility, and the equipment would be the troop/police contributor's responsibility. Additionally, the equipment provided was requested to be increased, and accordingly, the need to adjust the reimbursement rate was outlined. Member States raised concerns regarding the high financial implications should the United Nations provide the Internet service based on clarifications of the Secretariat about cost information. No agreement on the combined proposal was reached in the sub-working group. (A/C.5/71/20, para. 60, p. 26/92) The 2017 Working Group, however, recommended that the Secretariat provide data on the cost of providing Internet access to the 2020 COE Working Group. (A/C.5/71/20, para. 61, p. 26/92).

The 2020 COE Working Group considered the issue of reimbursement of welfare internet following four separate papers by Member States. The working group made the following recommendations:

> *The Secretariat carry out a study of the recurring costs and utilization of data, voice and/or bandwidth required for communications equipment provided under major equipment for operational purposes and that a detailed proposal on how those costs might be covered be put forward for the 2023 Working Group; and*

> *The Secretariat conduct a comprehensive study on the technical aspects of services provided under Internet access, such as data for each individual, and propose a reimbursement rate that is feasible for most contingents deployed across all the peacekeeping missions so that due consideration to increasing the reimbursement rate for Internet access can be given in the 2023 Working Group.*