

# **Barring by Mobile Network Operators of Calls Forwarded to “300” Numbers**

## **Statement of the Telecommunications Authority of Hong Kong 1 February 2000**

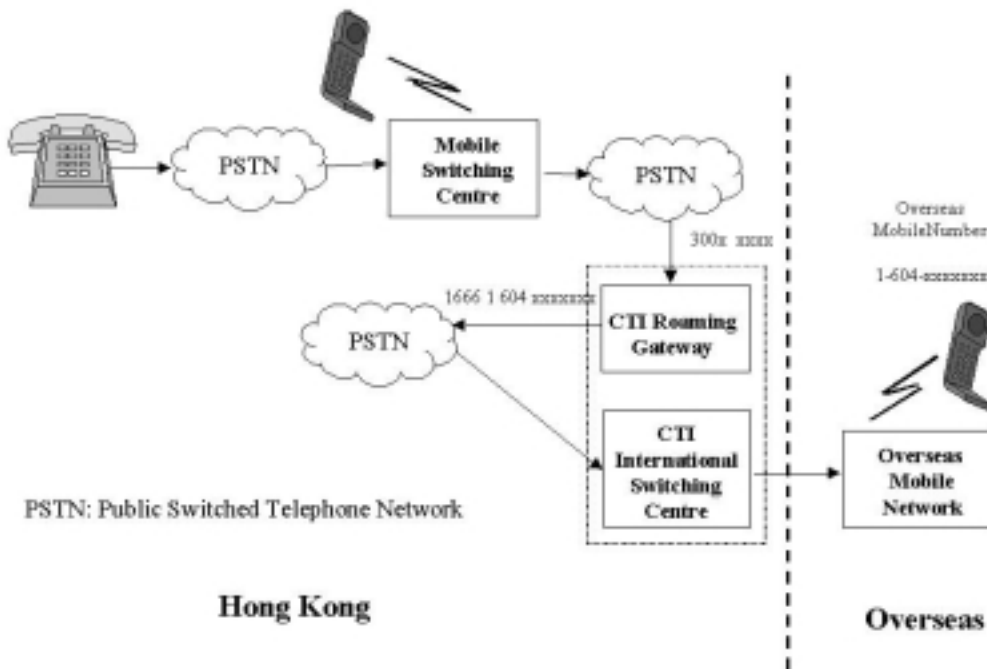
### **Introduction**

On 24 December 1999, the Telecommunications Authority (TA) received a complaint that a number of mobile network operators have barred the call-forwarding functions of their switches to the “300” prefixed numbers for access to a service called “International Roaming Service” operated by City Telecom (HK) Limited (CTI). Upon receipt of this complaint, the TA has asked the mobile network operators to remove the barring pending consideration of the concerns of the operators about the service operated by CTI. The TA has invited the mobile network operators to make submissions to the TA by 30 December 1999 setting out their reasons for barring the access to the CTI’s service by their customers. This report gives the TA’s considered view on the issue after considering the submissions from the mobile network operators. Annex 1 summarises the views expressed by the mobile network operators and Annex 2 gives the TA’s responses to those views.

### **Description of the CTI Service**

2. The operation of the CTI service is illustrated in the diagram below.
  
3. CTI supplies to the customers SIM cards or handsets for use in the roaming countries and provides the customer with a “300” prefixed number. Before customers depart for the roaming countries, they would call forward their mobile calls to their respective “300” prefixed numbers. In the roaming countries, they would insert the SIM card supplied by CTI in the handset or directly use the handset provided by CTI. All calls to the mobile number of the customers in Hong Kong would be forwarded to the “300” prefixed numbers and CTI would forward the calls to the overseas numbers associated with the SIM cards or handsets through the routing used by CTI for the operation of its IDD service.

### Configuration of CTI's "International Roaming Service"



### **Mobile Network Operators' Objection**

4. The mobile network operators consider that CTI is operating a mobile service without a licence. The TA notes that the operation of CTI's service does not involve any radiocommunication equipment within the territories of Hong Kong. A licence issued under the Telecommunication Ordinance regulates only the operation of services within Hong Kong. The installation used for the provision of CTI's service is no different from those used for the routing of calls by value-added services (e.g. telephone card services) which are services operated over the circuits provided by licensed network operators.

5. The mobile network operators consider that CTI's service is an unfair bypass of the international roaming service which the mobile network operators have invested substantially in. The TA considers that consumers should be allowed to choose the most efficient routing to route their calls. The purpose of competition is to provide competitive pressure to drive prices down to the efficient level.

6. The mobile network operators consider that the permission of the CTI would upset relationship with other members of the GSM Association. The TA notes that it is open for a mobile customer to purchase SIM cards for use in the roaming countries. What CTI is doing in the service is to act as an intermediary to supply the SIM cards or handsets and to make it more convenient for customers to route the calls to the telephone numbers associated with the SIM cards or handsets. Some mobile network operators, themselves, are in fact supplying SIM cards and handsets for use in the roaming countries.

7. The mobile network operators consider that the CTI's service is unfairly using the resources of the mobile switches without fair compensation to the mobile network operators. The TA does not consider that there is any strong argument for this. The mobile network operators are providing a call-forwarding service to their customers for mobile services. These mobile customers have paid for the call-forwarding function as a value-added service adjunct to the mobile phone services. Even if the call-forwarding function has been provided free-of-charge to the mobile customers, the function would have been treated as a feature of the mobile phone services to enhance the attractiveness of the services to potential customers. Accordingly, the mobile network operators have either been paid for in the operation of the call-forwarding function or decided to absorb the cost of the call-forwarding function as part of the operating costs of the mobile phone services.

8. The mobile network operators consider that the "any-to-any" principle, that any user can call any other user, does not apply to the call-forwarding function. The TA does not agree with this view. The user of a call-forwarding function should be able to call-forward his/her call to any number. Call forwarding to the "300" prefixed numbers of the CTI services would not cause any confusion in billing as it is clear that the CTI's customers, not the originators of the call-forwarded calls, would be responsible for the charges for the use of the services. There is also no question of CTI evading payment of local access charges (LAC). CTI is required to pay the LAC for calls routed to the "300" prefixed numbers in accordance with the mechanism set out by the TA. However, in order to facilitate the correct measurement by fixed network operators of the traffic of call-forwarded calls for LAC payment, the TA will open a new numbering level "307" for the same or similar services. After the new numbering level "307" has been programmed and implemented at all fixed and mobile networks, CTI and other PNETS operators operating the above services should stop assigning the "300" prefixed numbers but instead start to assign "307" prefixed numbers to customers.

9. The mobile network operators consider that the use of the call-forwarding service for the CTI's service could overload their switches. The TA considers that this is a dimensioning problem. The TA notes that the call-forwarding to the CTI's services would be activated only when the mobile customers are in the roaming countries. He would welcome data from mobile network operators to assess the impact on the dimensioning of the mobile switches.

10. The mobile network operators consider that the use of the "300" prefixed numbers for individual customers in the CTI's service is a contravention of the code of practice entitled "Code of Practice Relating to the Use of Numbers and Codes in the Hong Kong Numbering Plan (Cap.269)" issued by the TA on 26 August 1999 because the service using "300" level numbers does not fall into either the Group 1 or Group 2 PNETS services as defined in Appendix 4 of the code of practice. The TA does not consider that the use constitutes a contravention because CTI, being a PNETS licensee to operate both public messaging services and external telecommunication services, can assign the "300" numbers to mobile customers for the above operation. The service is considered to be one of the services classified as Group 2 in the code of practice.

11. The mobile network operators consider that the name and description of the CTI's service is misleading. The consumers are not told that the CTI's service does not provide the full range of roaming services, e.g. the CTI's service does not forward messages in the Short Message Service (SMS). The TA will ask CTI to clearly indicate the true nature and capability of the service in its sales literature and ensure that customers are given clear explanation before the customers decide to take up the service.

## **Conclusion**

12. Based on the above, the TA concludes that the service operated by the CTI is a legitimate service and mobile network operators should not bar their customers' access to the service.

**Office of the Telecommunications Authority**

1 February 2000

**Summary of Comments from Mobile Network Operators on  
Barring of Mobile Calls Forwarded to "300" Numbers**

<b>Operators</b>	<b>Views &amp; Comments</b>
<b>Cable &amp; Wireless HKT CSL Limited (CWHKTCSL)</b>	<p>CWHKTCSL complains about the legitimacy of City Telecom (HK) Ltd. (CTI) providing "Mobile Services" to local mobile users in Hong Kong.</p> <p>CWHKTCSL strongly objects to the "Service" provided by CTI for the following reasons :</p> <ul style="list-style-type: none"><li>• CTI is providing "Mobile Services" in Hong Kong.</li><li>• The "Service" using the "300" number range does not fall into either the Group 1 or the Group 2 PNETS services defined in Appendix 4 of the Code of Practice on 26 August 1999 issued by the TA.</li><li>• CTI's operation will damage the reputation of Hong Kong as an international roaming partner and violate the spirit of international roaming agreement as upheld by the GSM Association.</li><li>• If the "Service" is not stopped immediately, it will open up the floodgate for new comers to operate the same illegitimate service.</li><li>• The "Service" will have negative impact to customers:<ul style="list-style-type: none"><li>◆ Service quality is degraded;</li><li>◆ This "Service" will easily result in fraud; and</li><li>◆ Customers will be confused as to who is providing the roaming service.</li></ul></li></ul>
<b>Hutchison Telephone Company Limited (Hutchison)</b>	<p>Hutchison complains against CTI in relation to the provision of the CTI Services without the necessary licence and requests that the provision of the CTI Services be terminated immediately.</p> <p>Hutchison considers that the general principle of "any-to-any communication" does not contain any reference to "call forwarding".</p> <p>The draft "Standardisation Guide for Call Forwarding Services provided by the PTNs" provides that certain services, such as 00X, 306, PNETS, ETS services, should have a default status of "Default Bar" for call forwarding purposes</p>

Operators	Views & Comments
	<p>because they are international in nature and there are charging issues to be considered in relation thereto. As the CTI Services are also international in nature, it should also have a "Default Bar" status for call forwarding purposes.</p> <p>Hutchison considers the provision of the CTI Services to be totally undesirable for Hong Kong for the following reasons:</p> <p><u>Impacts on Customers</u></p> <ul style="list-style-type: none"> <li>• Hutchison believes that the provision of CTI Services will create billing-related fraud to the detriment of the customers.</li> <li>• The customers will be confused as to who is providing the services and whom to turn to for customer services.</li> <li>• The existing mobile services, such as SMS, USSD and fraud protection, may be adversely affected by the introduction of the CTI Services.</li> </ul> <p><u>Impacts on the Industry</u></p> <ul style="list-style-type: none"> <li>• The CTI Services would tarnish the image of Hong Kong as a roaming partner.</li> <li>• The CTI Services would open the floodgate to new providers of the same services.</li> <li>• There is a risk that when pre-paid roaming becomes more prevalent, the provision of local mobile services by way of foreign pre-paid SIM-Cards roaming to Hong Kong. This would be in direct conflict with the current licensing regime.</li> <li>• The provision of the CTI Services takes advantage of the network resources of the licensed mobile operators. It takes advantage of the fact the call forwarding is provided free of charge in Hong Kong at the moment. Hutchison would re-consider the policy of free call forwarding if the provision of the CTI Services is allowed.</li> </ul> <p><u>Technical Considerations</u></p> <ul style="list-style-type: none"> <li>• The provision of CTI Services poses a threat to the normal operation of the network switches of the licensed mobile operators. The volume of forwarded traffic may cause the collapse of network switches.</li> <li>• The stability of fixed-line network could be affected.</li> </ul>
<p><b>SmarTone Mobile Communications Ltd.</b></p>	<p>SmarTone requests OFTA to carefully review the type of services offered by CTI which resembles the international roaming services currently provided by the mobile operators.</p>

Operators	Views & Comments
<p><b>(SmarTone) :</b></p>	<p>SmarTone has great concern on the legality of the service offered by CTI for the following reasons:</p> <ul style="list-style-type: none"> <li>• The PNETS licence held by CTI does not include the right to resell overseas mobile services in Hong Kong and services involving international mobile roaming.</li> <li>• CTI is taking advantage on the network facilities built by the mobile operators in cherry-picking the profitable services of the mobile operators.</li> <li>• CTI's service is in effect dispensing with the need of membership of the GSM Association and the substantial investment for roaming services expended by the mobile operators. This does not place CTI in the same level playing field with the mobile operators.</li> <li>• Since CTI is utilising the network of the mobile operators, the customers could be misled as to identity of the service provider. The mobile operators may have to incur additional cost and time to support customer care which would present a significant burden for the mobile operators.</li> <li>• The services provided by CTI do not fall into the definition of Group 1 and Group 2 services.</li> <li>• CTI is using a limited "300" number range for the service and the same "300" numbers could be reused. This may result in confusion in billing of customers or incorrect charging of customers.</li> <li>• The volume of call forwarded traffic arising out of the CTI's service could jeopardise the quality of service being provided to customers during normal operations and in emergency situations.</li> </ul>
<p><b>Mandarin Communications Ltd. (SUNDAY)</b></p>	<p>SUNDAY finds no sound justification to allow the uplifting of rules currently adopted by OFTA and immediate action shall be taken against CTI requiring CTI to cease providing the questionable service.</p> <p>SUNDAY is of a view that the principle of "any-to-any communication" only applies to a situation when a calling party can reach any called party by "dialling" the number or code of the called party and it does not apply to a "call-forward" function involving PNETS numbers (including voice mail only) .</p> <p>SUNDAY would like to share with OFTA its view as follows:</p> <ul style="list-style-type: none"> <li>• The service provided by CTI does not fall within the definition of either Group 1 or Group 2 of "PNETS" and CTI is illegally using "300" number range.</li> </ul>

Operators	Views & Comments
	<ul style="list-style-type: none"> <li>• CTI has caused irreparable losses and damages to the public in Hong Kong – <ul style="list-style-type: none"> <li>◆ No proper licence governing the use of "300" number range means no service guarantee and no proper forum will be in the right jurisdiction to lead to any resolution when disputes arise;</li> <li>◆ Affect mobile operators' service qualities as valued-added services like short message delivery system will no longer be available and reachable and this will be against the anti-competition rule upheld by OFTA; and</li> <li>◆ Cause confusion and illusion to the subscribers of mobile service as to who is the actual service provider and therefore enhance considerably potential fraud and unavoidably, but unnecessarily, cause disputes and complaints between operators and the subscribers.</li> </ul> </li>   <li>• CTI has caused irreparable losses and damages to the industry in Hong Kong - <ul style="list-style-type: none"> <li>◆ Open floodgate to service providers providing same or similar services;</li> <li>◆ Mistakenly promote the atmosphere in illegally making use of resources of other licensed operators without contribution; and</li> <li>◆ Unpredictable volume of forwarding traffic will inevitably pose real and imminent risk to overload the switches of the operators.</li> </ul> </li>   <li>• CTI has caused irreparable losses and damages on international level – <ul style="list-style-type: none"> <li>◆ Disruptive to the image of Hong Kong as a roaming partner and hence to generate profitable roaming revenue by their international roaming partners; and</li> <li>◆ The increasing potential fraud will incidentally lead to disputes between the mobile operators and the roaming partners.</li> </ul> </li> </ul>
<b>Peoples Telephone Company Limited (Peoples)</b>	<p>Peoples would like OFTA to consider the repercussion of allowing CTI to promote its "Mobile Roaming Service" on an ongoing basis for the following reasons:</p> <ul style="list-style-type: none"> <li>• By making use of mobile call forward to "300" number, Peoples believes this will jeopardise their system</li> </ul>

Operators	Views & Comments
	<p>capacity</p> <ul style="list-style-type: none"> <li>• The "Service" provided by CTI does not adhere to GSM Association's standards and Peoples doubts whether CTI's service can be legitimately called "Mobile Roaming Service".</li> <li>• The malpractice of CTI will erode the benefit of all GSM network operators, not only in Hong Kong, but worldwide. It would be harmful to Hong Kong's image as a roaming partner in the world.</li> <li>• OFTA's acquiescence to CTI may probably open the floodgate to similar malpractice by other operators in the future.</li> </ul>
<p><b>New World PCS Limited (NWPCS)</b></p>	<p>NWPCS has reasons to believe that CTI is providing mobile services to currently active customers of licensed mobile operators in Hong Kong. NWPCS would seek OFTA's kind consideration to instruct CTI to stop its illegal offer of the "Mobile Services" immediately for the following reasons:</p> <ul style="list-style-type: none"> <li>• CTI is making use of "300" number range for provision of "Mobile Services" for which it does not own a licence for operating.</li> <li>• The services provided by CTI do not fall within definition of either Group 1 or Group 2 of "PNETS".</li> <li>• The use of "300" number range by CTI is an attempt to avoid the associated PNETS or LAC payment.</li> <li>• Being an ETS Licensee, CTI should provide all their ETS services using "305" or "306" number range according to OFTA's guidelines. Such illegal operation by CTI will lead to the open of floodgate to new service providers of similar services.</li> <li>• CTI's action will be an illegitimate way of making use of resources of licensed operators because the connection of a forwarded call to a number terminating to an overseas number will hold up their network resources without appropriate compensation to the additional network resources being occupied.</li> <li>• The volume of forwarded traffic may overload NWPCS's network and affect their services to customer.</li> <li>• The provision of CTI's "Mobile Services" will introduce adverse effect on other existing mobile services available to customers such as "short messages".</li> <li>• NWPCS has deep concern on potential fraud cases and customer service issues as the confused customers may file complaints with them without the knowledge to distinguish whether a fault in service quality or fraud is originated within CTI's "Mobile Services".</li> <li>• CTI's illegal provision of "Mobile Services" will inevitably affect the provision of roaming services and destroy the relationship between Hong Kong and other countries regarding the roaming agreement.</li> </ul>

Operators	Views & Comments
<p><b>New World Telephone Limited (NWT)</b></p>	<p>NWT requests for an urgent investigation by OFTA and requests for stopping the misuse of "300" number range immediately.</p> <p>NWT comments that the action of applying "300" number range for IDD-type of services by the ETS operator that are subject to LAC will interrupt the current metering mechanism. It is because the FTNS operators are not capable of differentiating the charging details of individual "300" numbers.</p>

Office of the Telecommunications Authority  
1 February 2000

**Evaluation of the Key Points in Comments from Mobile Network Operators on the Barring of Mobile Calls Forwarded to "300" Numbers**

<b>Item No</b>	<b>Key Points in the Comments of Mobile Network Operators</b>	<b>TA's Views</b>
1	The mobile network operators consider that CTI is providing a mobile service. Therefore, CTI should apply for a Public Radiocommunication Service Licence for the operation of such service.	The TA has studied the operation of CTI's "International Roaming Service" and concluded that CTI is not operating any mobile service within the territories of Hong Kong that needs to be covered under a Public Radiocommunication Service (PRS) Licence. A mobile service cannot be provided without the operation of radiocommunication equipment. No part of the telecommunication installation used by CTI for the provision of the service involves transmission of radio waves within the territories of Hong Kong. CTI is operating a routing service within Hong Kong. The mobile customers, having subscribed to mobile network operators' call-forwarding function and at their own discretion, forward their mobile calls to the "300" numbers assigned by CTI to use the service of CTI to which those customers have also subscribed. The function of the service of CTI is to receive such forwarded calls from mobile customers and send them according to their overseas mobile destinations. The TA considers that the PNETS licences granted to CTI could allow CTI to operate the above service and there is no need for CTI to obtain a PRS licence.
2	The service using "300" level numbers does not fall into either the Group 1 or Group 2 PNETS services as defined in Appendix 4 of the Code of Practice.	The TA considers that it is permissible for CTI, being a PNETS licensee to operate both public messaging services and ETS, to assign the "300" numbers to mobile customers for the above operation. The service is considered to be one of the services classified as Group 2 in the Code of Practice.
3	CTI's operation will damage reputation of Hong Kong as an international roaming partner and violate the spirit of international roaming agreement as	GSM Association is responsible for the development, deployment and evolution of the GSM standard for digital

Item No	Key Points in the Comments of Mobile Network Operators	TA's Views
	upheld by GSM Association	wireless communications and for promotion of the GSM platform. Roaming agreements are established commercially among GSM operators in different countries. Mobile customers should have their choice to select the "roaming services" provided by mobile network operators or the routing service offered by CTI.
4	Such arrangement will open up the floodgate for new entrants for the operation of such services.	It is obvious that since the TA considers that CTI is permitted to operate such service, other operators with proper licences are also allowed to do so.
5	The general principle of "any-to-any communication" does not contain any reference to "call forwarding".	The principle of "any-to-any communication" should be applied not only to direct calls but also to call-forwarded calls. The user of a call-forwarding function should be able to forward the call to any destination connected to the telecommunication network inside or outside Hong Kong.
6	The draft HKTA3209 i.e. "Standardisation Guide for Call Forwarding Services provided by the PTNs" provides that certain services, such as 00X, 306, PNET, ETS services, should have a default status of "Default Bar" for call forwarding purposes because they are international in nature and there are charging issues to be considered in relation thereto. As the CTI Services are also international in nature, it should also have a "Default Bar" status for call forwarding purposes.	The draft HKTA 3209 has not yet been finalised and should be subject to further consideration and scrutiny by the TA before implementation. In fact, "300" numbers are not CLI-level chargeable numbers and have not been earmarked for barring in the draft document.
7	The provision of CTI services may create billing-related fraud to the detriment of the customers	The concern from mobile network operators is not specific enough for the TA to make any evaluation. However, if there is a chance for billing-related fraud, the TA will request CTI to impose necessary safeguards and measures to combat the fraud issue.

Item No	Key Points in the Comments of Mobile Network Operators	TA's Views
8	The customers will be confused as to who is providing the services and to whom to turn to for customer services.	The operational procedures between the services provided by mobile network operators and the service by CTI are totally different. Provided that mobile customers know these procedures, they should not be confused and should be able to differentiate these services well.
9	The existing mobile services, such as SMS, USSD and fraud protection, may be adversely affected by the introduction of the CTI Services.	Since there is no detailed information provided by operators, it is difficult for the TA to make an evaluation on this aspect.
10	The CTI Services will tarnish the image of Hong Kong as a roaming partner.	Mobile customers can still have their choice to join the roaming service provided by mobile network operators. The TA is not convinced on this argument.
11	The provision of CTI Services poses a threat to the normal operation of the network switches of the licensed mobile operators. The volume of forwarded traffic may cause the collapse of network switches.	It is a network dimensioning issue and can be overcome by mobile network operators concerned. Mobile network operators can monitor the traffic volume and pattern closely and re-engineer its network accordingly in order to maintain satisfactory and good quality of service to customers.
12	The stability of fixed-line network could be affected.	Again it is an engineering issue and operators concerned are obliged to take appropriate actions to maintain its quality of service and good performance of their networks.
13	The PNETS licence held by CTI does not include the right to resell overseas mobile services in Hong Kong and services involving international mobile roaming.	Same TA's view given in (1) above.
14	CTI is taking advantage on the network facilities built by the mobile network operators in cherry-picking the profitable services of the mobile network operators.	Same TA's view given in (1) above.
15	The volume of call forwarded traffic arising out of the CTI's service could jeopardise the quality of service being provided to customers during normal operations and in emergency situations.	Same TA's view given in (11) and (12) above.

Item No	Key Points in the Comments of Mobile Network Operators	TA's Views
16	No proper licence governing the use of "300" number range means no service guarantee and no proper forum will be in the right jurisdiction to lead to any resolution when disputes arise.	The licences issued to operators and the Code of Practice will govern operators in the use of "300" numbers. If there are any disputes among operators or customers, the TA will mediate and resolve them.
17	The use of "300" number range by CTI is an attempt to avoid the associated PNETS or LAC payment.	According to the network configuration provided by CTI, there is no sign showing that CTI is trying to evade the appropriate charges of PNETS or LAC. However, the TA will ensure that CTI will comply fully with the requirements of PNETS and LAC payment. In order to facilitate the correct measurement by fixed network operators of the traffic of call-forwarded calls for LAC payment, the TA will open a new numbering level "307" for the same or similar services. After the new numbering level "307" has been programmed and implemented at all fixed and mobile networks, CTI and other PNETS operators operating the above services should stop assigning the "300" prefixed numbers but instead start to assign "307" prefixed numbers to customers.
18	CTI will act as a 7 <sup>th</sup> mobile operator as there is a chance for it to sell overseas SIM cards and handsets capable for roaming and use in Hong Kong such that local customers using these handsets with "300" numbers can receive local calls despite the fact that these calls have been routed by CTI from Hong Kong to overseas and back again to Hong Kong. CTI has the advantage of relying on the base stations and infrastructure equipment of mobile network operators in Hong Kong to provide this service and needs not make any investment for mobile base station and infrastructure equipment.	This scenario is hypothetical and since CTI is not operating the service in this manner, the TA would not make any comments or judgement on this until there are further details and evidence of such happening received by the TA.