

A METHOD OF PURCHASING GOODS AND SERVICES ON THE INTERNET USING INTERNET SERVICE PROVIDERS TO TRANSFER THE MONEY

BY

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ABSTRACT

This article describes a method of purchasing goods and services on the internet using a proposed internet money transfer service (IMTS) to transfer the money from buyer to seller.

The method in short requires:-

1. Having the buyer establish an account with the buyer's internet service provider (ISP);
2. Having the seller establish an account with the sellers' ISP;
3. The buyer placing funds in the buyer's ISP, or establishing a line of credit;
4. The buyer purchases a good or service from the seller by sending a message over the internet via the buyer's ISP and the seller's ISP;
5. This purchase results in a debiting of the buyer's account and crediting of the seller's account;
6. The transfer of money from the buyer's ISP to the seller's ISP.
7. For domestic only transfer, there is a single domestic Money Transfer Service, owned by the provider, that transfers money from one domestic ISP to another.
8. The domestic transfer of money from one ISP to another would pass through the domestic Internet Money Transfer Service (IMTS), owned by the provider. All the ISP's would open accounts with this service, and the Domestic IMTS would refund net payments to each ISP at the end of the day through its banking agent, or require the ISP to refund it the net amount at the end of the day.
9. The domestic IMTS would act as the central banker for this internet money transfer service. There would be an IMTS service in each country.
10. For International money transactions each Domestic IMTS would also act as an International IMTS.
11. The international transfer of money from one ISP to one in another country would pass through the International IMTS, owned by the provider. All the ISP's would open accounts with this service, and the IMTS would refund net payments to each ISP at the end of the day through its banking agent, or require the ISP to refund it the net amount at the end of the day.
12. Each country's IMTS would act as the central banker for this internet money transfer service. There would be an IMTS in each country, and they would facilitate inter-country payments. These IMTS's would facilitate foreign exchange transactions.

The methodology is described in more detail in the following description:

This methodology would be used in economies where more advanced money transfer systems, based on the use of credit cards and individual credit, are unable to be used. Such economies could be either less developed and would not have a credit transfer system, or alternatively, there could be religious restrictions on the provision of credit. Additionally, there are issues with the safety of the provision of credit card numbers to sellers. The transmission of these numbers over the internet is dangerous, the seller has to be trusted not to misuse the credit card information, and the retention of this information in databases can be highly dangerous. It is a lot safer to transfer the money directly from buyer to seller via third parties.

A further major hindrance in using credit cards is the relatively high transaction costs when making small purchases. For instance, the cost of viewing a single copy of a newspaper on the internet is prohibitive using a credit card, because, even if the newspaper costs would very little to view for a single page, the cost of the credit card transaction would be very much more. The proposed methodology would facilitate these micro-transactions with minimal transaction costs.

Finally, vast amounts of money are transferred from country to country, incurring foreign exchange transactions. Some of these amounts are very large, others are small. The transaction costs incurred, at least for the small amounts, are relatively large. The proposed methodology would greatly reduce the transaction costs. While the relative transaction cost would be small, the total size of revenue could be very large.

BACKGROUND

A continuing major problem with the commercialisation of the internet, or the purchase of goods and services over the internet, regardless of the current total size of these transactions, is the difficulty paying for goods and services.

In many major less developed countries, the availability of credit cards, and credit card accounts, is very limited or not available entirely. While these economies are growing, and the standard of living of these inhabitants are growing, the potential market for goods and services in these countries cannot be tapped. They do have the internet and ISP's, located in urban areas that have access to bank accounts, the vast majority of the inhabitants of these countries are rural, and do not have access to credit or debit cards. While people in advanced economies would find it difficult to grasp, these people would thus have no access to money transfer facilities such as Paypal. A more primitive money transfer system exists, such as transferring remittances from workers abroad using 'shroffs', but that system is nearly useless for purchasing goods and services from abroad, or else it certainly has high transaction costs.

In addition, there is a general prohibition of the use of interest-bearing credit by various Muslim countries, and through that, credit cards. The economies of some of these countries are vast, but the purchases of these inhabitants are confined to cash or check purchases

from stores, or frequent buying trips abroad. The internet market is generally closed to the inhabitants of these countries, unless they evade these countries' laws.

Even in advanced countries there are severe issues with the use of credit cards. The only feasible method that has been tried to date is the provision of the buyer's credit card number to the seller. Alternatively, the credit card number is supplied to a third-party payer such as Paypal. This method has restricted the sale of goods and services over the internet as the buyers are inhibited from providing their credit card number to the seller over the internet because of the lack of security involved and the possible mis-use of their credit card number.

When internet commerce started up, there was an explosion in the use of credit cards, as people were somewhat naive and trusting in their use; but since then there have been apocryphal reports that there has been a pull back in the use of credit cards. Many reports have surfaced that credit card numbers have been stolen and mis-used, either by the seller, or in transmission, or whole databases of thousands of credit card numbers have been stolen. The use of credit cards is being discouraged.

While banks, the usual credit suppliers, have fall-back guarantee services repaying clients for the mis-use of their credit cards; these are not universal; especially when the credit card owner is travelling in another country.

A major hindrance in using credit cards is the relatively high transaction costs when making small purchases. Of all the reasons for using the proposed method, this is probably the most important. There is a vast market for internet transactions out there, that the use of credit cards prevents exploitation. These are "small change" transactions. While the items are small, there is potentially a fast number of them, and tiny commissions on each transaction would add up to a vast revenue. For instance, the cost of viewing a single copy of a page on the internet is prohibitive using credit cards, even if the newspaper costs very little to view, the cost of the credit card transaction would be very much more. A whole range of sales of goods and services on the internet are made un-economic by the use of credit cards. Using the proposed methodology would reduce the size of these transaction costs to a miniscule size, facilitating these transactions. The internet market for these goods and services would be vastly increased, and thus the total commissions earned.

Finally, vast amounts of money are transferred from country to country, incurring foreign exchange transactions. Some of these amounts are very large, others are small. The transaction costs incurred, at least for the small amounts, are relatively large. The proposed methodology would greatly reduce the transaction costs. And yes, it would at least partly do away with the need for banks, as the money would be transferred from customer to customer without the need of these third parties. This is because the proposed service would act as a central banker for the ISP's, and would daily pay each ISP only the net payments due to them, or request a net payment from an ISP if it was in debit. In practice it would hold an ISP's deposit or offer it credit, as the ISP does for its clients.

While the relative transaction cost would be small, the total size of revenue could be very large as vast markets would be opened up by low transaction costs. Large amounts of

money are transferred as remittances to third world countries using high cost methods. These payments can be transferred cheaply by the proposed methodology.

Money would be transferred at low cost between ISP's by the Internet Money Transfer Service (IMTS). This IMTS would be owned by this service provider, and there would be one in each and every country this money transfer service operates. What would happen is that when the ISP is requested by the buyer to transfer money, the ISP would transfer this amount to its IMTS. If the seller is in the same country as the buyer, this same IMTS would transfer this amount (less a small commission) to the seller's ISP, to be paid to the seller. If on the other hand the seller is in another country this amount is transferred to the IMTS in the seller's country (less a small commission). The IMTS in the seller's country would convert the currency received into the domestic currency (for a small commission) and send the money onto the seller's ISP, to be transmitted to the seller.

This entire transaction would take place automatically and immediately. No human intervention should be required.

The foreign exchange transactions should take place inside the IMTS against a reference exchange rate and would be balanced out. Only the net position should be referred to the IMTS's banking agency. As this service grows the proportional amount referred to the banking agency should fall.

This IMTS system is likely to become a very large international bank, as the low transfer costs would encourage very large international currency transfers. Such a bank would engender very large internal foreign exchange transactions due to the very large internal flows of various currencies, and would initially be involved in arbitrage with the existing foreign exchange market. However, after a while this firm is likely to dominate the foreign exchange market. As large sums are likely to be in the course of transfer at any one time, this firm/bank is likely to move into short term lending – even long-term lending.

I shall say as an aside that banking in Western Europe originated in the business of international currency transfer. The Medici Bank started this way, netting out movements in currency transfers throughout Europe. It grew very large doing this.

A word of warning. The Medici Bank subsequently collapsed because it got greedy and wanted a higher rate of return for its short-term deposits, by lending out longer-term and on riskier loans. In the end the Medici Bank needed to be rescued by the Florentine Government (nothing changes). The rescue occurred as, fortunately by this time, the Medicis had captured the Florentine Government!

METHODOLOGY

The proposed methodology is a program application written especially for use on the internet. In this methodology the program application consists of two parts. One part of the program application is held on the computer of the internet service provider (ISP), and the other part of the program application is held on the internet computer file (Web Page) of the seller of the goods and services.

A feature of the program application held by the ISP (called the Purse Application) are files similar to account files to which the clients of the ISP (the prospective buyers) credit sums of money. Alternatively, the ISP can offer its clients credit. Or it does both. This money can be drawn upon by the seller of the goods and services on the internet, when the buyer buys goods or services from the seller on the internet.

A central feature of this methodology is that the Internet Money Transfer Service (IMTS) acts as a central bank, through which all payments to ISP's are made. The IMTS reflects the relationship of the clients with the ISP's. The ISP's each open an account with the IMTS. At the end of each day, the IMTS pays the net amount owed to each ISP through its banking agent, or obtains a net amount from the ISP if it was in debit.

There is an IMTS in every country the service operates in. In those cases where the seller is in a different country to the buyer, the IMTS the buyer's country transfer to amount (less a small commission) to the IMTS in the seller's country. The IMTS in the seller's country converts this amount into the currency of the seller's country and a reference exchange rate (less a small commission) and transmits this payment to the seller's ISP, which will pay the seller. All this is handled automatically by computer. No human intervention is required. Thus, commissions can be very small.

THE WORKING OF THE PROGRAM APPLICATION

The way the program application works is as follows:-

1. The prospective buyer views the web page of the seller on the internet, and decides to purchase a good or service at a quoted price. Each good or service advertised on the web page is accompanied by a "button" on the screen picture which can be "pressed" by "clicking" on it. If goods are involved, the seller's web page would also have space for entry of delivery details.
2. A message is sent from the buyer over the internet informing the seller (or the seller's ISP) that the buyer wishes to buy a particular good or service. This message is called the "offer to buy" message and is illustrated in **FIG 1**.
3. It is the usual practice on the internet for the buyer's ISP's internet address to automatically accompany the "offer to buy" message. Accordingly, the buyer's ISP's address can be extracted from the "offer to buy" message. A message is returned to the buyer's ISP requesting a transfer of the sum required. This message is called the "confirmation request" message and is illustrated in **FIG 2**.

4. The buyer's ISP sends a message to the buyer requesting a confirmation of the transaction if the buyer's account is in credit (**FIG 3**), or the ISP refuses the transaction if the buyer is not in credit with the ISP.
5. The buyer confirms the transaction to the buyer's ISP (**FIG 4**). This is a necessary safeguard to prevent fraudulent use.
6. The buyer's ISP sends confirmation to the ISP and the buyer's account is debited and the seller's account is credited. The buyer's ISP also sends a duplicate of the transaction to its Internet Money Transfer Service (IMTS) requesting that the banking agent pay the seller's ISP (**FIG 5**).
7. The IMTS pays the Seller's ISP, who in turn pays the Seller. (**FIG 6**).
8. All the ISP's maintain accounts with the IMTS. The IMTS nets out all the payments at the end of the day, and could pay the net amounts to those ISP's in credit through its banking agent, and requests net amounts from those ISP's in credit. In practice all the ISP's are likely to maintain accounts with the IMTS, and either be in credit or debit at any one time.
9. In the case of international transactions there is an IMTS in the Buyer's country, and an IMTS in the Seller's country.
10. The transactions in **Fig 5**, **FIG 6**, **FIG 7**, and **FIG 8**, and **Fig 9**, are the same as for a domestic transaction even though the Buyer and Seller are in different countries. Messages pass seamlessly between the Buyer's ISP and the Seller's ISP over the Internet.
11. The only difference is in **FIG 10**, when money is transferred from the IMTS in the Buyer's country to the IMTS in the Seller's country.
12. All the messages which pass back and forth on the internet are encrypted for security. All payments take place after a deduction of small commission by the buyers IMTS. The Seller's IMTS will need to charge a small commission also in order to pay from it a commission to the Seller's ISP.
13. If there is an exchange into different currencies, the IMTS in the Seller's country conducts a foreign exchange transaction at a reference foreign exchange rate. For this it could make a slight profit.
14. **Implications of the increased size of internet payment service.** As the service increases in size it can "net" the payments between the IMTS on a particular day, and request its banking agent to pay only the net of that day's payments to those IMTS in net credit. In effect the internet money transfer service provider would be acting as a bank. With a little thought it can be seen that the unpaid net balances would remain inside the account of the money service provider. As the internet money transfer service grows internationally, increased size would reduce the need of the internet money transfer service to resort to banking agents to make final payments. Standing cash deposits would increase rapidly.
15. **Commission.** A commission or fee is charged on transactions. As the process is conducted automatically by computer, except for the acknowledgement by the buyer, transaction costs are very low, and thus commissions can be very low. Very low commissions are vital for the success of this proposed internet money transfer methodology, and are central to this proposal. The lower the commission charged, the vastly greater will be the potential markets for this service. With very low commissions, this proposed service could take over a whole range of markets world-wide, and place this internet money transfer service as a major and central world-

wide service. Visionless greed and attempts to apply “normal” rates of commission would consign this service to be a very small and marginal actor even on the domestic stage.

16. Part of the commission or fee would go to the ISP for their services, and part to the internet money transfer service provider. Each ISP could accumulate the internet money transfer service provider’s commission in a special account, and this money would be regularly transmitted to the internet money transfer service provider.
17. Foreign exchange transactions, if conducted internally, can be another source of revenue, with the proviso, already described, that the transaction costs must be kept very low in order to expand and hold the market.
18. It would be advisable to supply the program applications to the ISP’s free of charge, in order to encourage take-up.

SOFTWARE

There is no current software for this methodology. It has been suggested that software for this application program can be written easily using Python. The software should then be converted to machine language to be distributed to the ISP’s. The distributed software should incorporate capability for both buying and selling. The distributed software would also include capability of communicating all transactions to the IMTS.

For international transactions, there would be additional software to carry out foreign exchange transactions at the current exchange rate. Again, there will be a netting out process.

Finally, this software would incorporate the ability to automatically charge commissions and fees, and reimburse the ISP’s. Receiving and paying commissions to banking agents are a more complex matter, but can be done in concert with the banking agents.

PATENT INFORMATION

The patent pertaining to this proposed money transfer system described here has now expired.

This proposed money transfer system was Patented in Australia on the 22 October 1996. Patent number PO3122. Title of invention - A method of purchasing goods and services.

As the patent was registered and has now expired, this idea is no longer novel. Anyone is free to use this idea, free of charge.

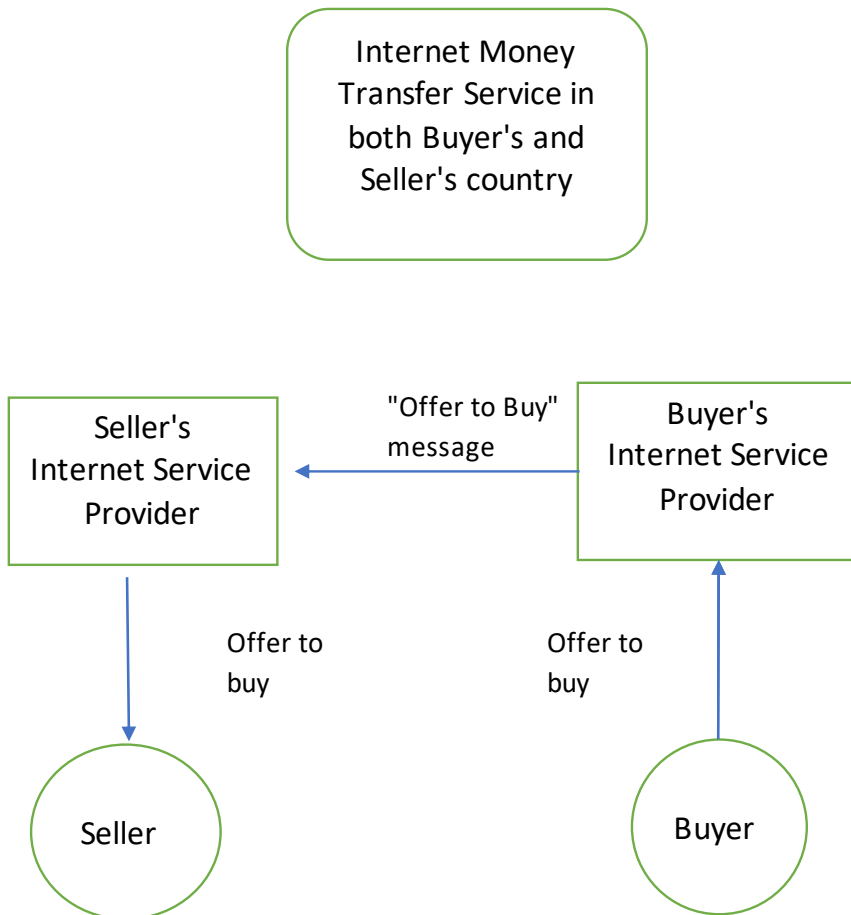
The above description is a modified form of this patent, substituting an Internet Money Transfer Service for a Banking Agent.

After this idea was patented in 1996, it took over a year to find an investor willing to commercialise this patent. However, this attempt of commercialisation failed following the

tech crash in 1999. Since then, the use of credit cards took over the operation of internet commerce, and there has been no interest in commercialising this idea. However, the recent dangers and difficulties involved in the use of credit cards may re-generate interest in this methodology. In that case, any new user is allowed to use this proposed method of transmitting money on the internet without charge from myself. Any claim of mine to this patent has well and truly expired!

Tim Walshaw

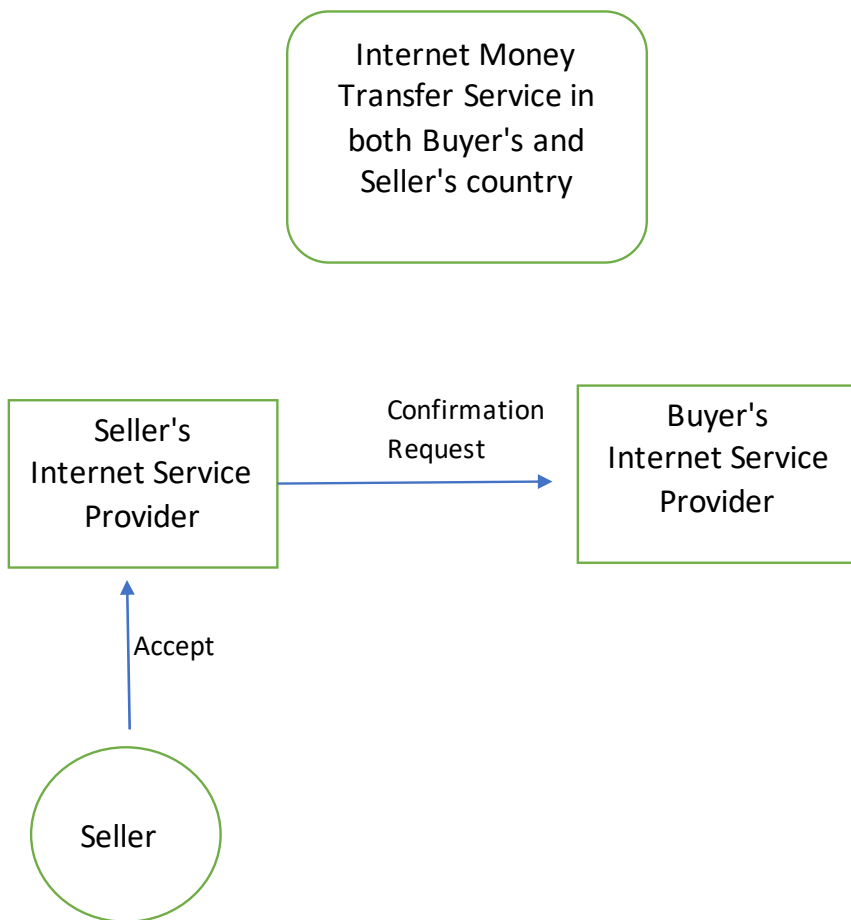
Domestic Money Transfer



Stage 1: The Buyer contacts the Seller on the Internet and views the Seller's Web page. If the Buyer wishes to make a purchase the Buyer pushes a 'Button' on the Seller's Web page to activate a 'Purchase' transaction. A message is then sent from the Buyer to the Seller's ISP as an offer to buy at a given price.

Fig 1

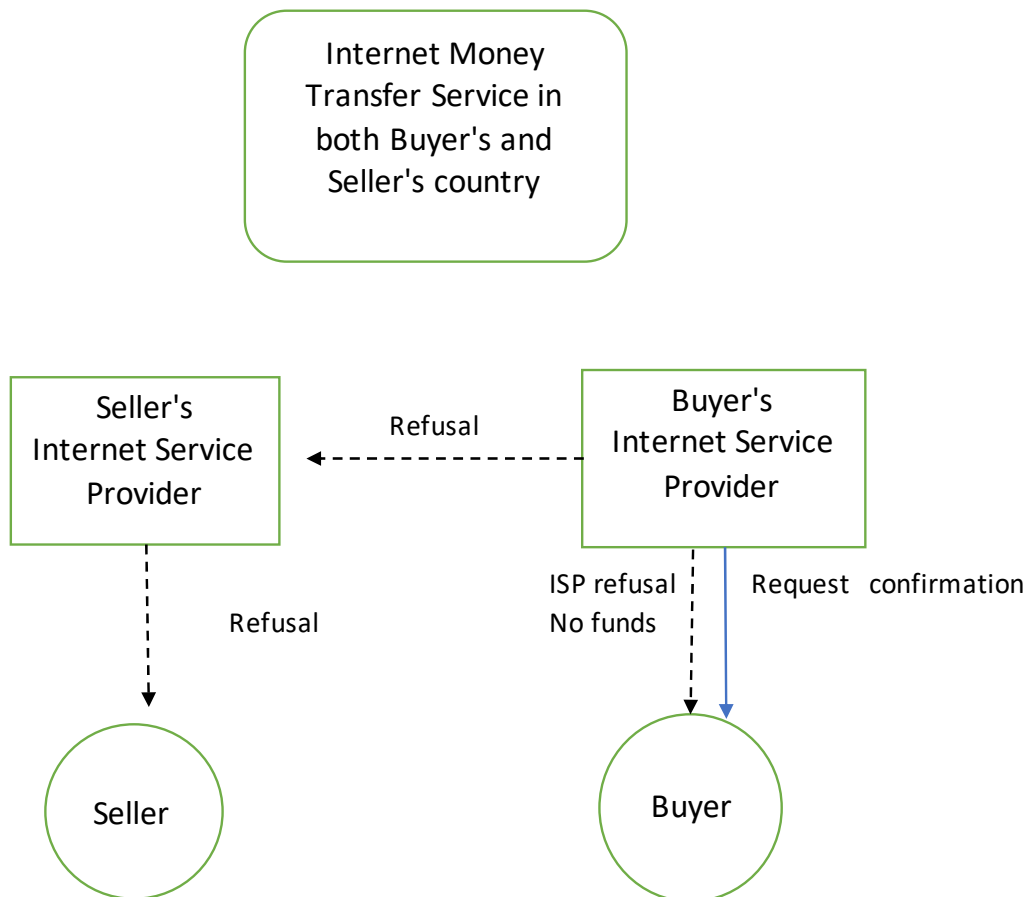
Domestic Money Transfer



Stage 2: The Seller's ISP receives the "Offer to Buy" message. The Seller's ISP then sends a message to the Buyer's ISP requesting confirmation of the purchase, and advising the address of the Seller's account on the Seller's ISP.

Fig 2

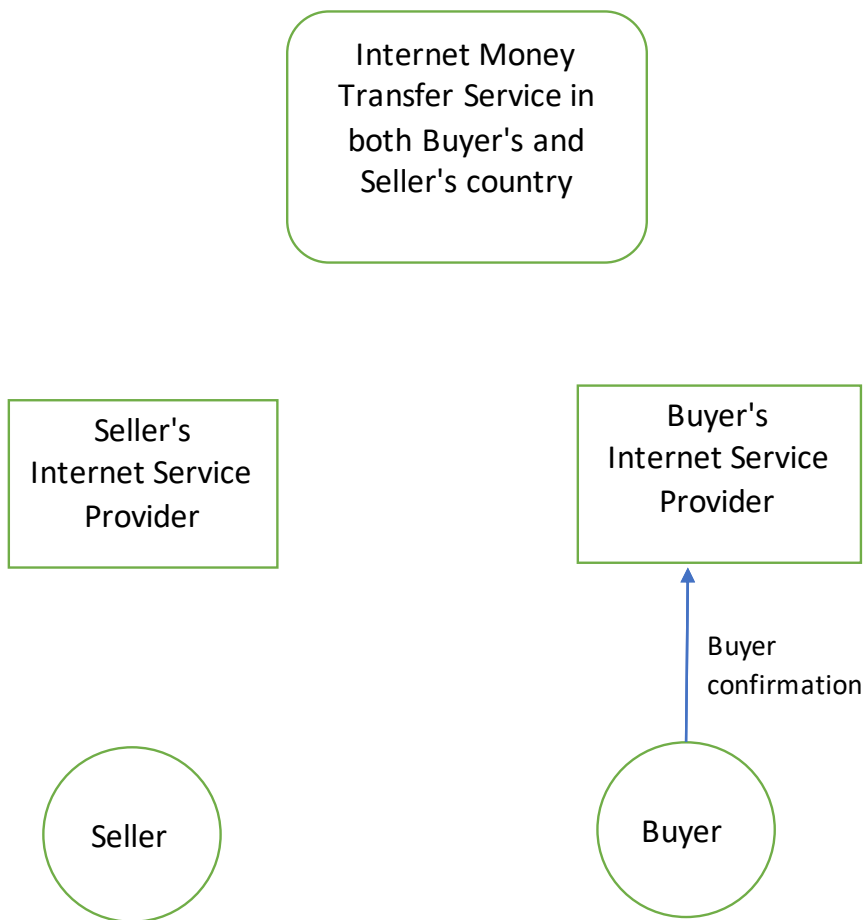
Domestic Money Transfer



Stage 3: The Buyer's ISP sends a message to the Buyer requesting confirmation of the Purchase, if the Buyer has funds on the Buyer's account. If the Buyer has no funds, the Buyer's ISP sends a message to the seller refusing the Transaction, and advising the Buyer.

Fig 3

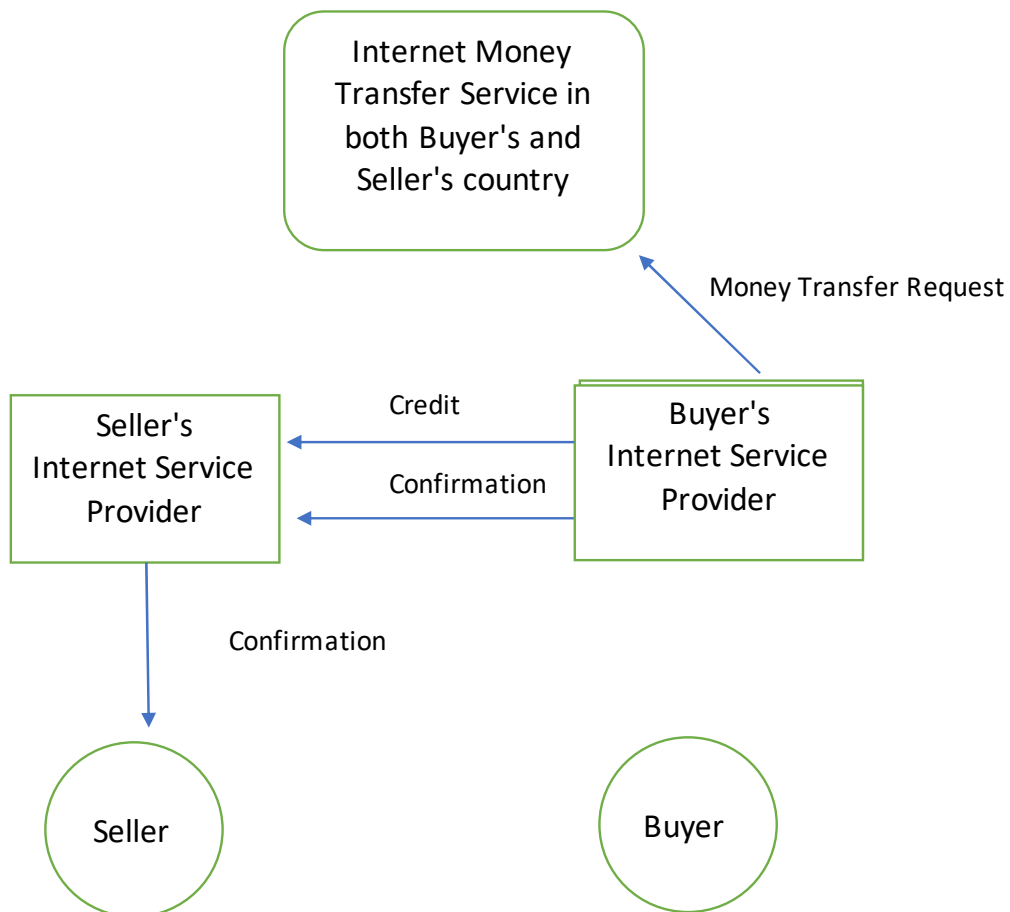
Domestic Money Transfer



Step 4: The Buyer confirms the Transaction to the Buyer's ISP.

Fig 4

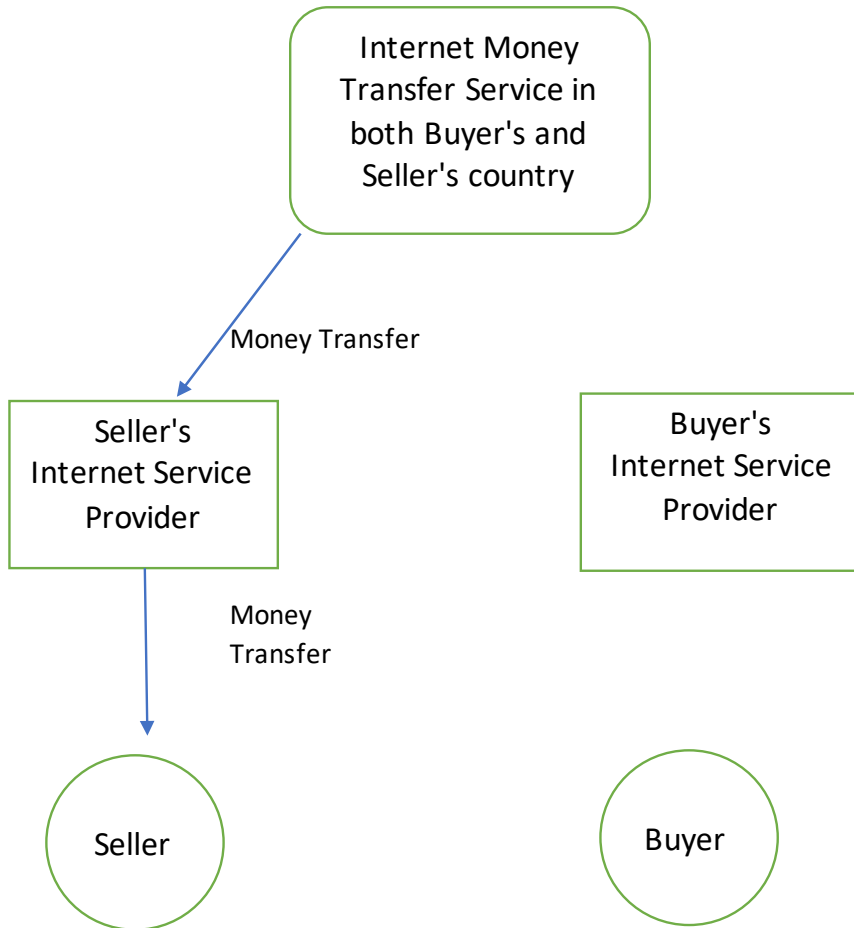
Domestic Money Transfer



Step 5: The Buyer's ISP sends a message to the Seller's ISP confirming the Transaction, and a message is sent to the Seller's ISP transferring a Money Credit to the Seller's account. Also a message is sent to the Internet Money Transfer Service requesting money to be sent to the Seller.

Fig 5

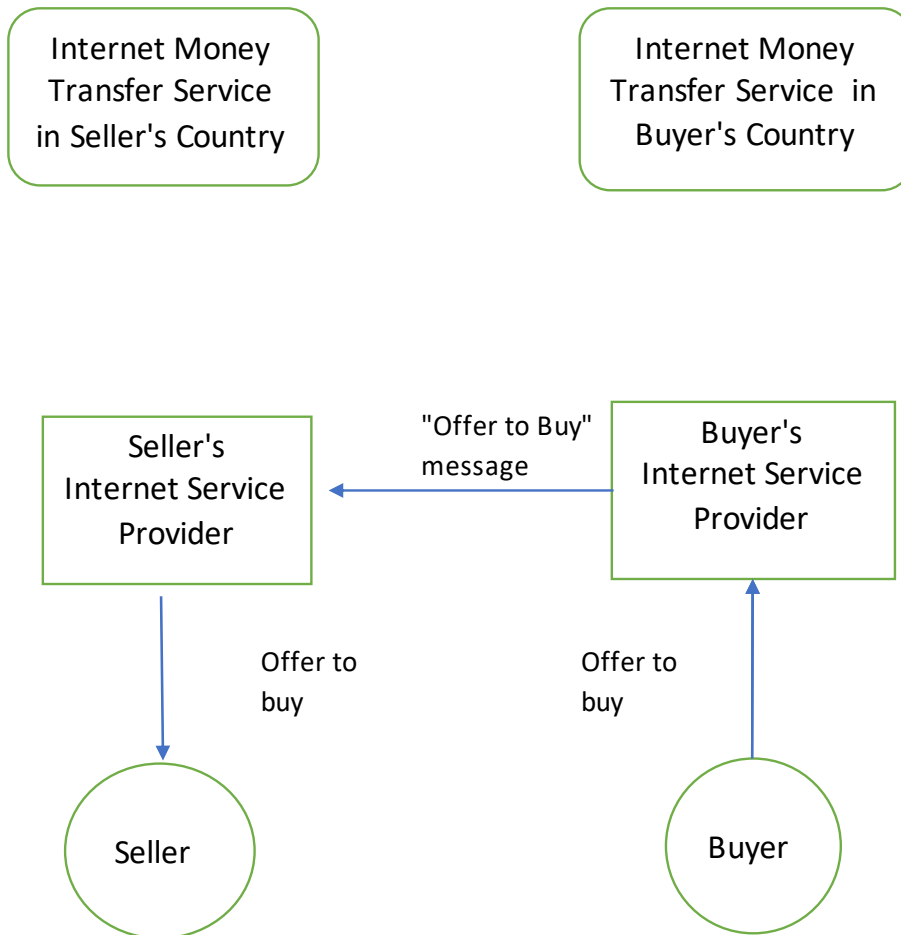
Domestic Money Transfer



Step 6: Money is Transferred from the Internet Money Transfer Service to the Seller's Internet Service Provider and thence to the Seller.

Fig 6

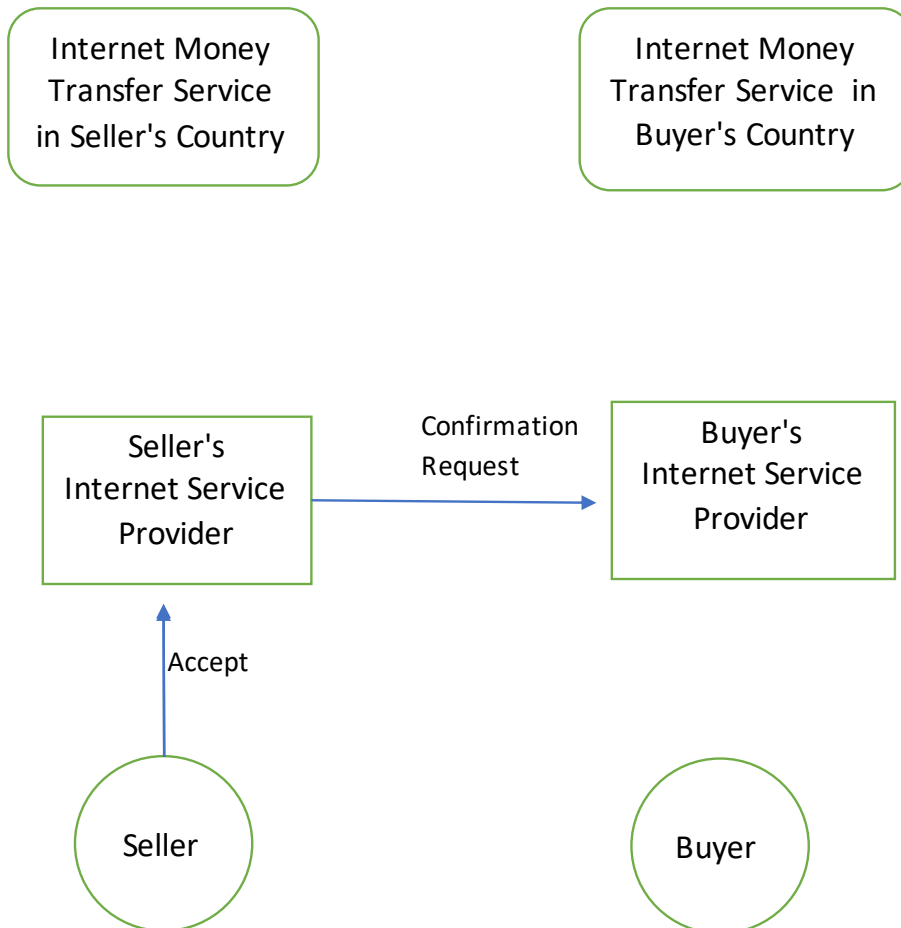
International Money Transfer



Stage 1: The Buyer contacts the Seller on the Internet and views the Seller's Web page. If the Buyer wishes to make a purchase the Buyer pushes a 'Button' on the Seller's Web page to activate a 'Purchase' transaction. A message is then sent from the Buyer to the Seller's ISP as an offer to buy at a given price.

Fig 7

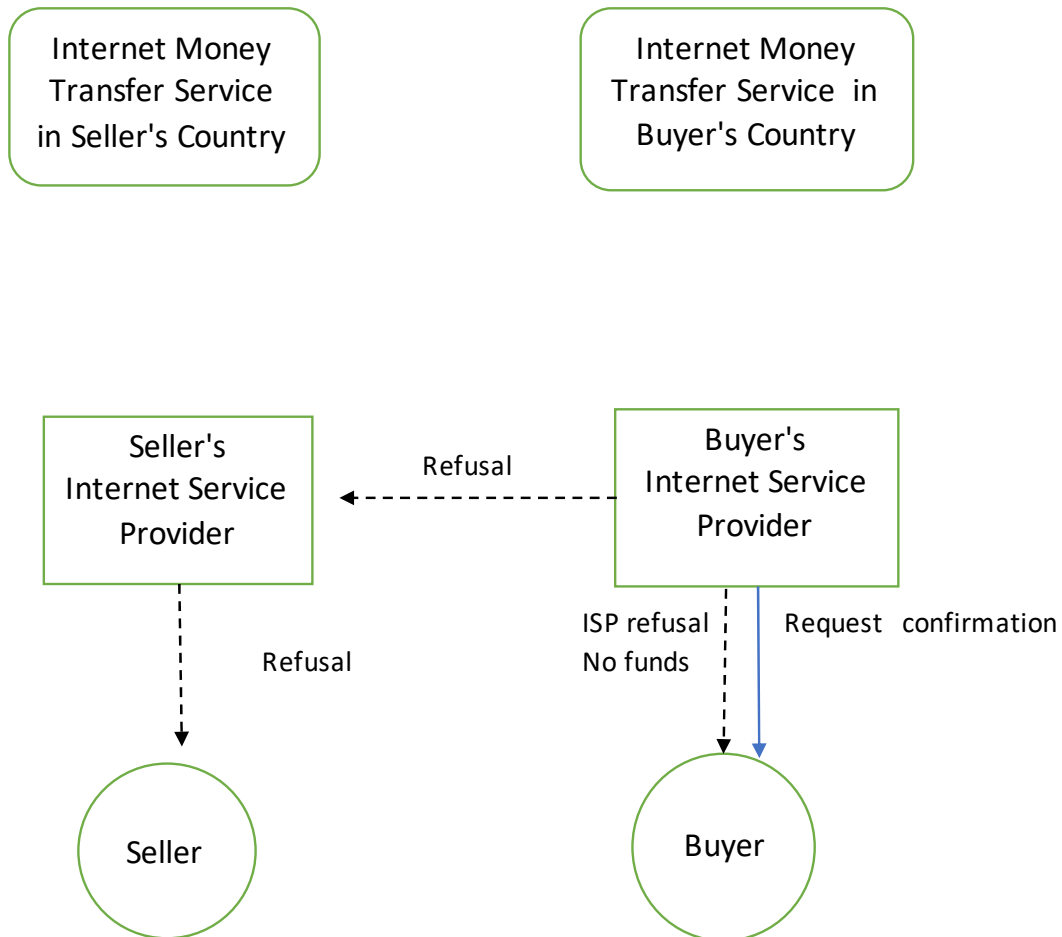
International Money Transfer



Stage 2: The Seller's ISP receives the "Offer to Buy" message. The Seller's ISP then sends a message to the Buyer's ISP requesting confirmation of the purchase, and advising the address of the Seller's account on the Seller's ISP.

Fig 8

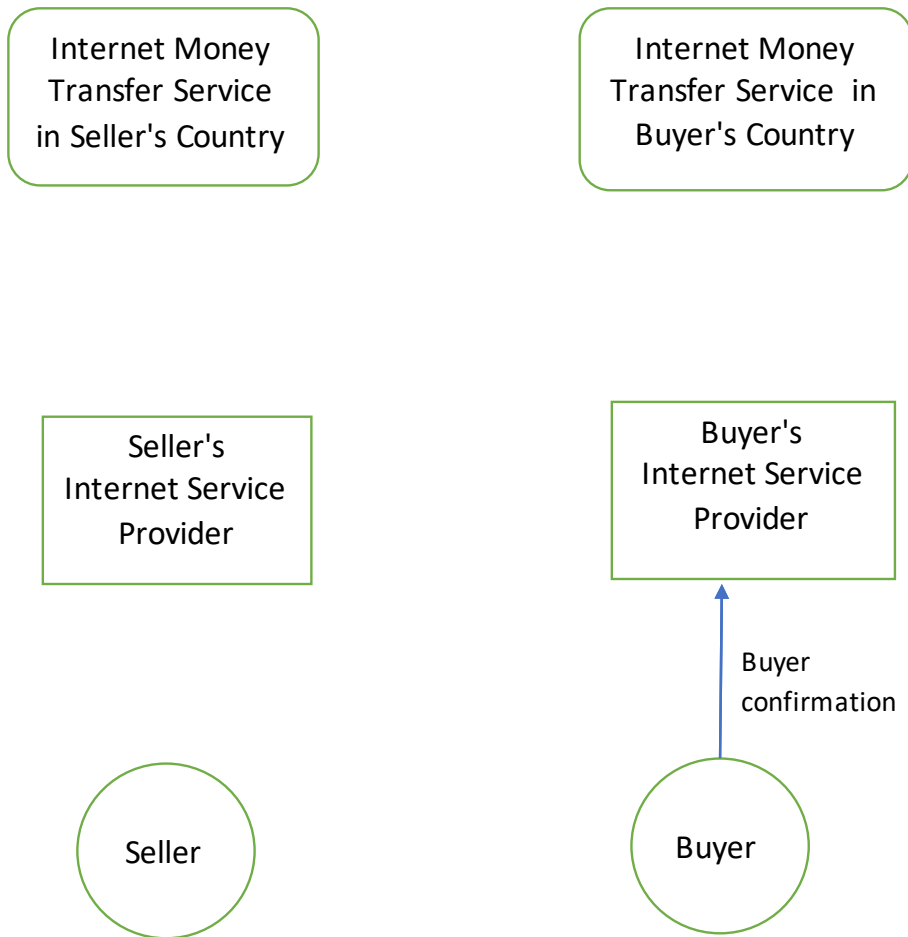
International Money Transfer



Stage 3: The Buyer's ISP sends a message to the Buyer requesting confirmation of the Purchase, if the Buyer has funds on the Buyer's account. If the Buyer has no funds, the Buyer's ISP sends a message to the seller refusing the Transaction, and advising the Buyer.

Fig 9

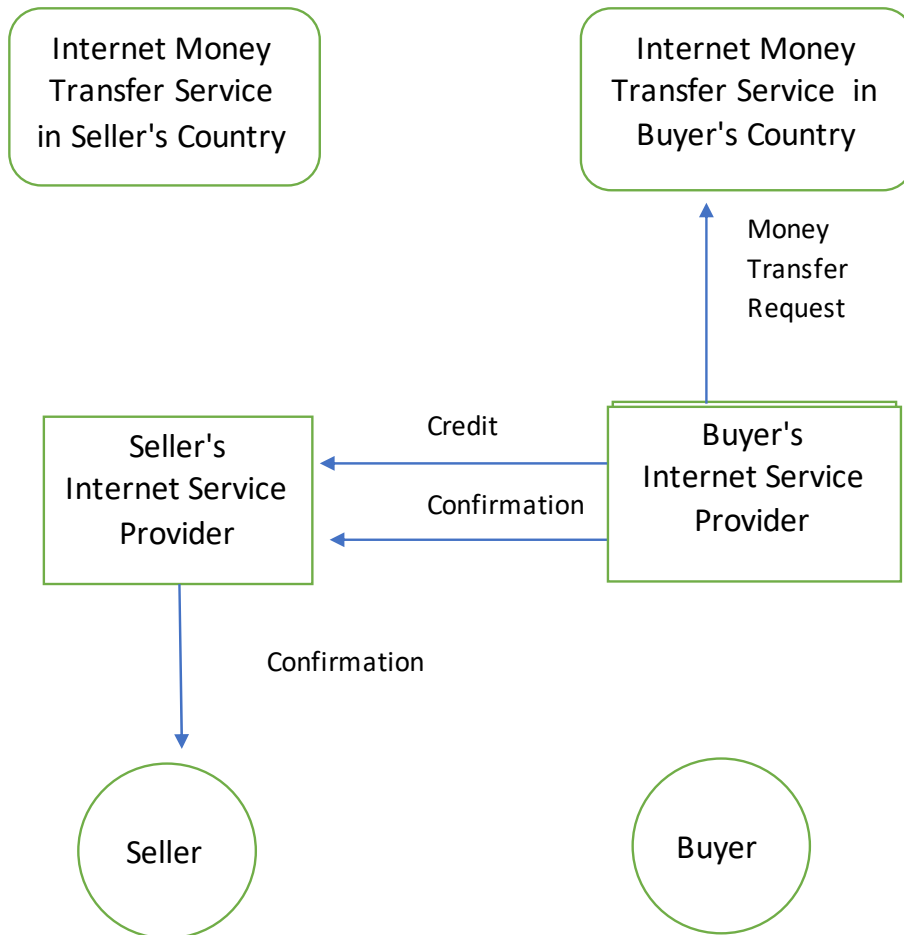
International Money Transfer



Step 4: The Buyer confirms the Transaction to the Buyer's ISP.

Fig 10

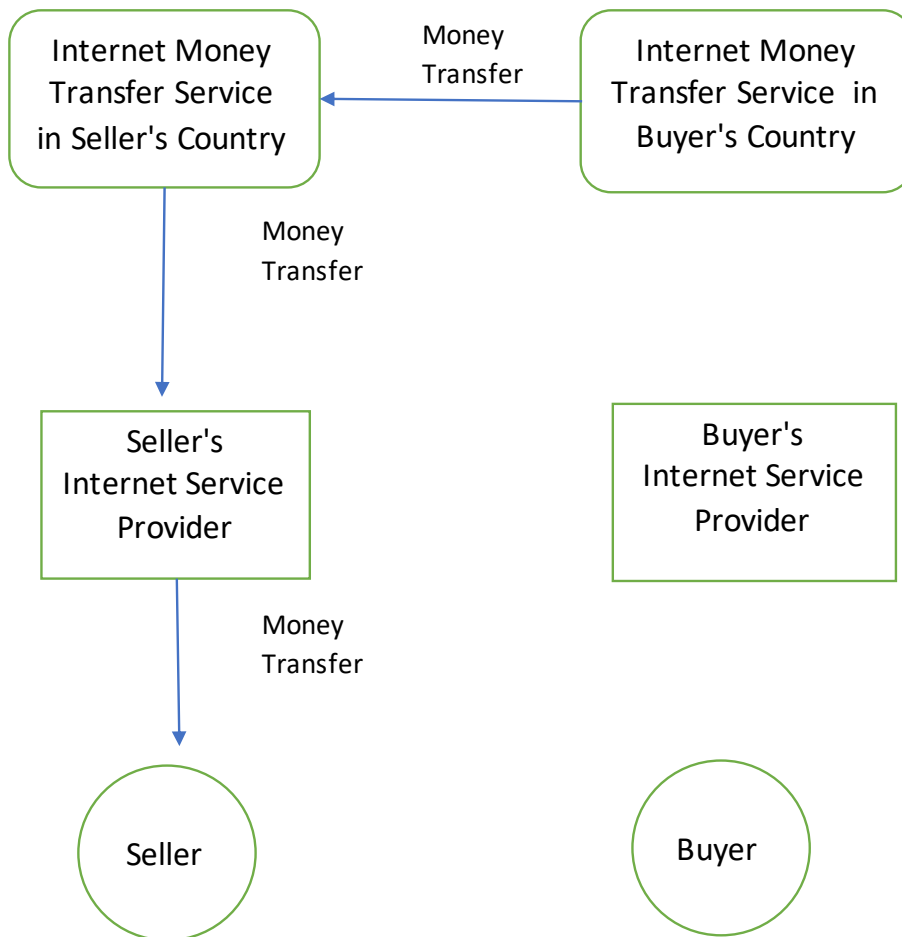
International Money Transfer



Step 5: The Buyer's ISP sends a message to the Seller confirming the Transaction, and a message is sent to the Seller's ISP transferring a Money Credit to the Seller's account. Also a message is sent to the Internet Money Transfer Service in the Buyer's Country requesting money to be sent to the Seller via the Internet Money Transfer Service in the Seller's country and the Seller's ISP.

Fig 11

International Money Transfer



Step 6: Money is Transferred from the Internet Money Transfer Service in the Buyer's country to the Internet Money Transfer Service in the Seller's country, and from thence to the Seller's ISP, who in turn credits the seller.

Fig 12