This presentation is for telephone users in the United Kingdom. The ”international” terminology used by International Service Operators worldwide is used throughout. Where applicable, a translation into British English is shown in these notes, and on the last page. This presentation was applicable in 1999 – things have moved on a little since then.

Glossary

Collect Transfer Charge or Reverse Charge

Objectives

•To describe the connection paths of incoming reverse charge calls

•To describe the paths taken by billing records

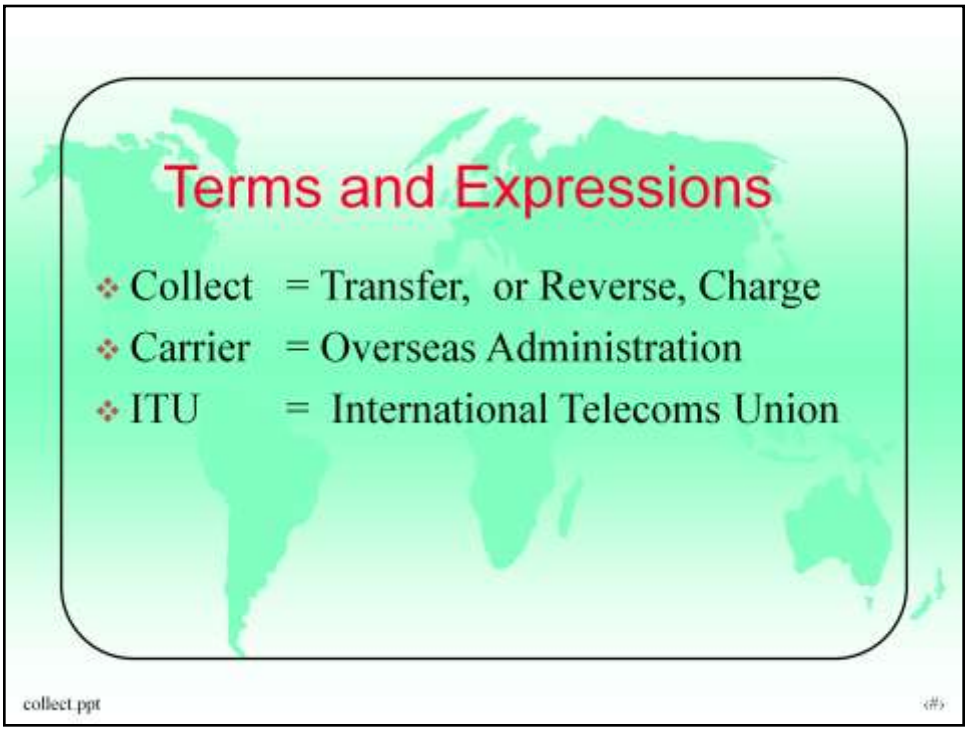
•To describe processing of billing records in IBS

•To sketch the International settlement procedures

Glossary

IBS International Billing System. Every telephone company that directly supports International Collect calling has an IBS of one form or another. In some companies, the IBS is an entire department, whereas in others it may be a single part time position.

International Settlements The process whereby the different telephone companies pay each other for the collect calls.



Glossary

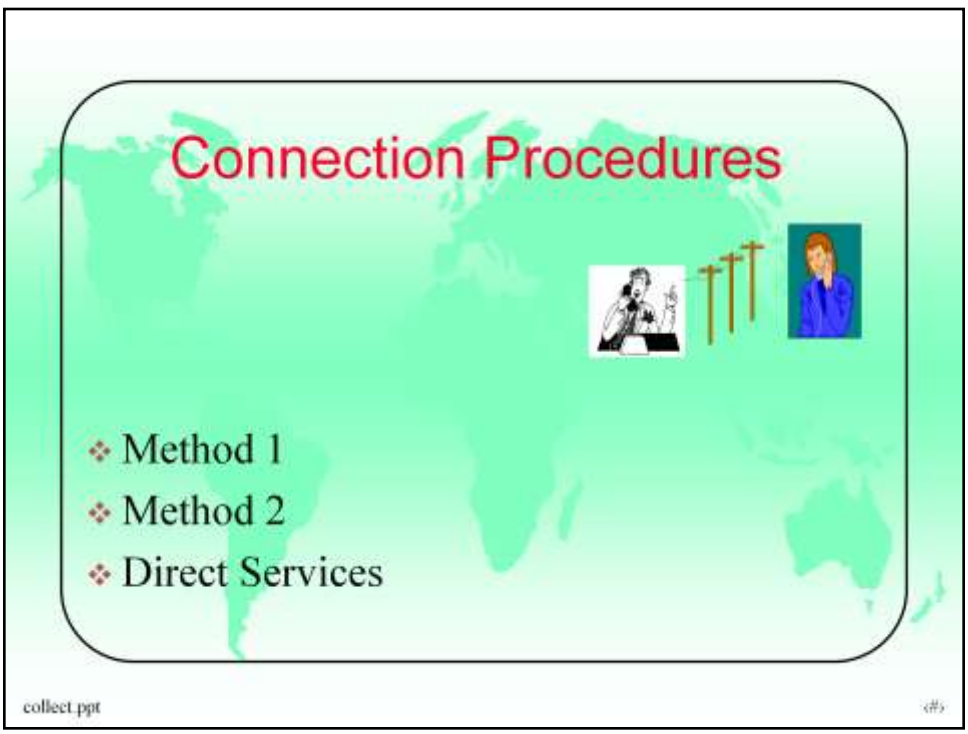
•**Carrier** An International Carrier is a telephone company, but not all telephone companies are International Carriers. Carriers handle the international telephone traffic for countries.
Individual *countries* often have more than one *Carrier;* for example, in the United Kingdom International calls are carried by BT and C&W. As deregulation "hits" other countries, so the number of carriers worldwide is ever increasing – and to add to any confusion, some carriers handle telephone traffic for several countries.

•**ITU** The International Telecoms Union makes recommendations regarding how international telecoms traffic is handled by the carriers. The recommendations include billing processes, data exchange, operator procedures and connection standards

The **IBS**, or **International Billing System**, provides the billing interface between the telephone company and the rest of the world.

International Settlements is responsible for paying the originating carriers for the received collect calls.

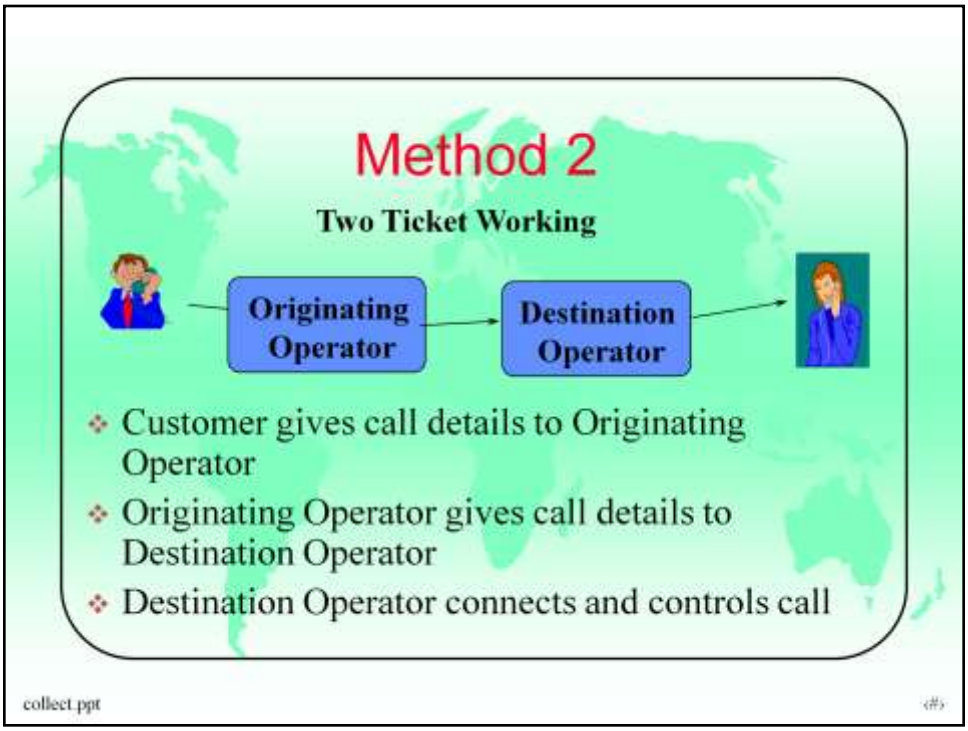
In effect, the carrier imports and exports telephone calls, and pays for them in bulk.



Connection Procedures

There are three Methods of connecting international collect calls:

1. Method 2 - 2 ticket working, operators in both originating and destination countries handle the connection.
2. Method 1 - Call is connected by operator in originating country, and a billing record is sent to the IBS in the destination country
3. Direct Services - customer dials directly to operator in destination country, who connects the call.



Method 2 Connection

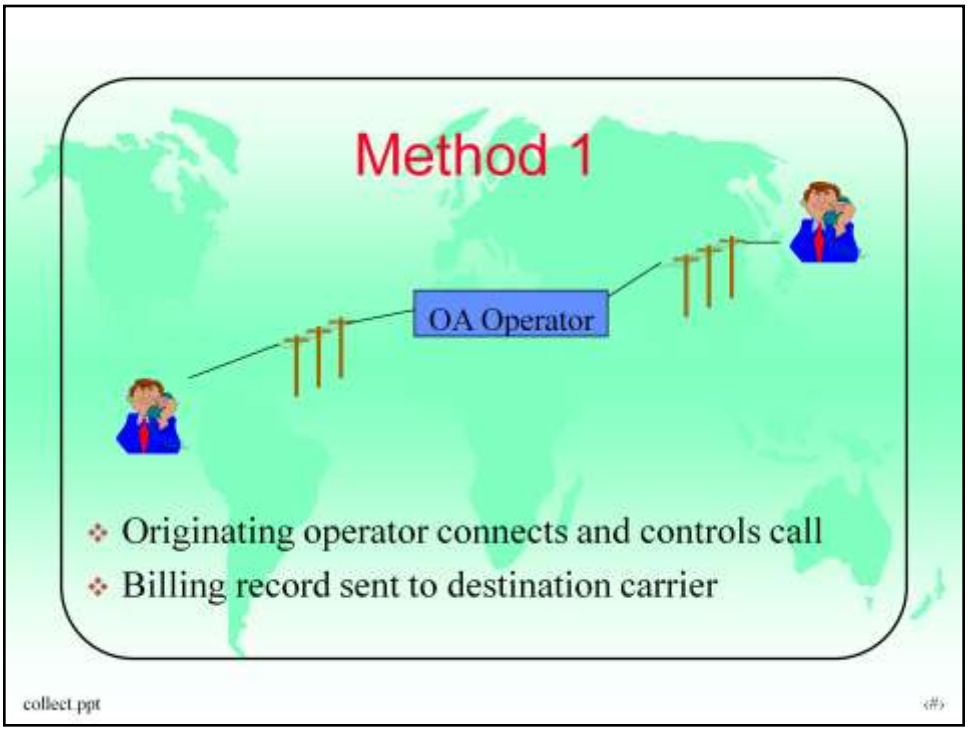
•Customers call their international operator (originating operator) who records the call details.

•Call details are passed to the destination operator by the originating operator.

•The destination operator connects the call and controls it. i.e. call timing, progress monitoring

•The destination country equipment generates a billing record, which goes on the call recipients bill

The customer dials directly to the destination operator, usually using an international freephone number.
The Destination operator books and connects the call, as for method 2.
The originating country has no record of the call.
Note that the calling number is often recorded as the originating country code plus one or two digits. This avoids the necessity for the calling customers to know the number of the ‘phone they are using - which may not have a number on it anyway!



Customer gives call details to operator in originating country.

The originating operator books and connects the call. The operator is responsible for connection, quality, and producing a billing record.
The billing record is sent to the destination carrier's IBS for processing.

Billing Data is transmitted by various means:

Printout (mail, Telex or Fax)

Modem

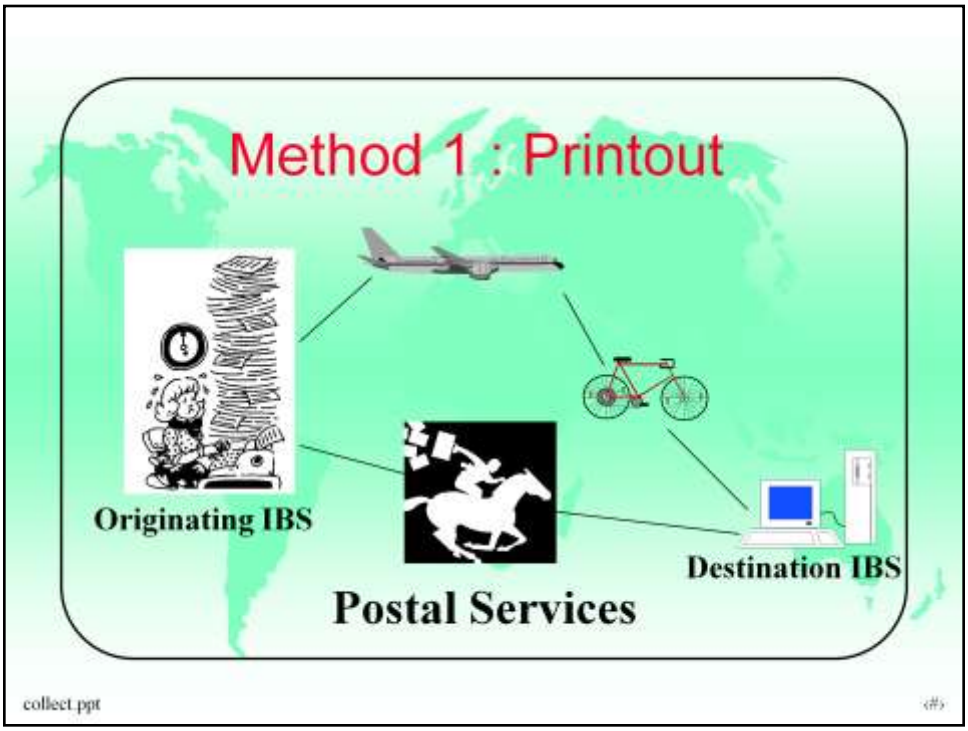
PSS (X25, Packet Switching or PSDN – Public Switched Data Network, not ISDN)

Floppy Disk

Magnetic Tape

E-mail

Internet www



Printouts are sent using postal services, including couriers, FAX and TELEX.

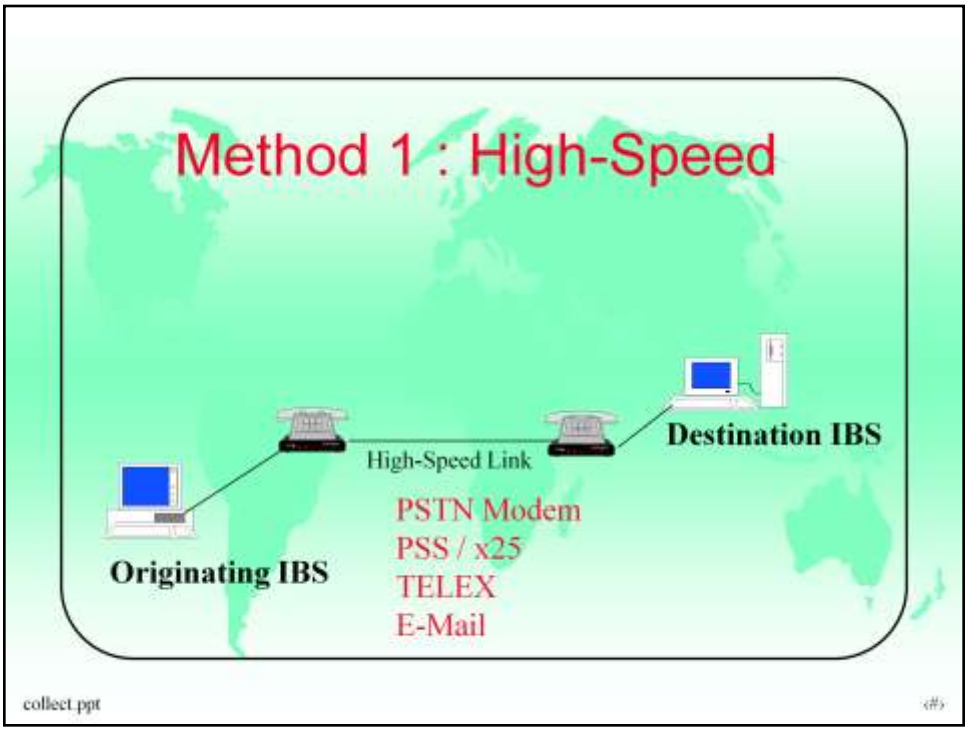
The printouts have to manually typed into the billing systems. This task requires accuracy

Printout items are usually printed. However quality of print, and ease of reading are variable.

Technology in some countries is not always up to date; and shortages make an impact in data transmission.

It has been known for one country, during a paper shortage, to send its data written on the backs of old envelopes.

Another country sent data in almost illegible manuscript – until a large carrier donated a typewriter. Now they need some ribbons...



High-Speed refers to data sent electronically, in a format recommended by the ITU.

The electronic methods used are:

Modem Point-to-point connection, not internet

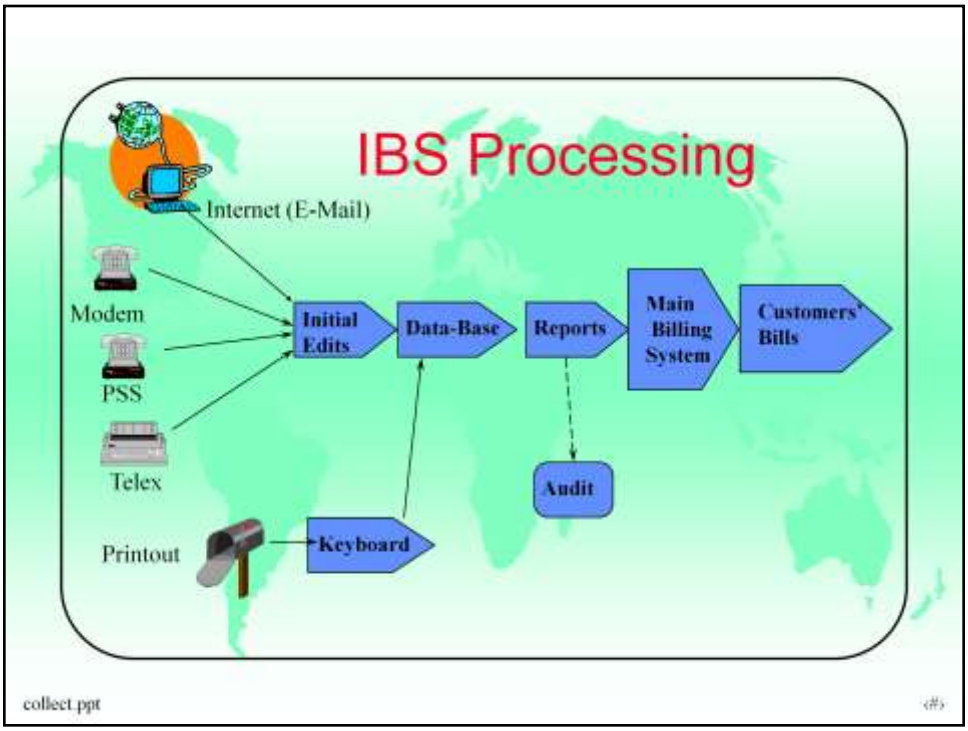
PSS (X25, Packet Switching or PSDN – Public Switched Data Network, not ISDN)

The above methods require a Bulletin Board System to be maintained at the IBS, or staff to manipulate the modem/PSS connections.

Magnetic Tape (rarely used)

E-mail – all data is encrypted for security

Internet www (rare at present, but volumes are likely to increase) SHTTP is required.



INITIAL EDITS

Data received by High-Speed is checked for corruption and correctable errors.

KEYBOARD

Received printouts are entered into batches. Validity checks ensure that the data is copied correctly.

DATA-BASE

The checked data is passed to a data-base routine, which checks for duplication,

The program also ensures the data shows the Country and Carrier of origin. The Country is needed to correctly price the call, the Carrier to ensure the correct carrier is paid for the records.

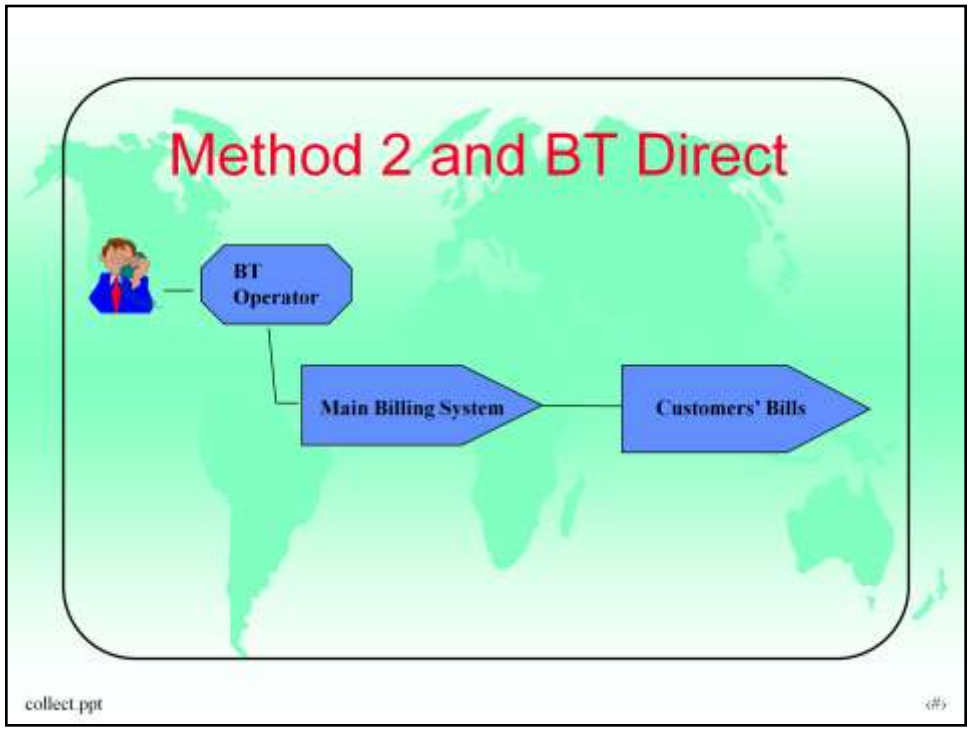
REPORTS

This section, in conjunction with the **Audit** procedures, reports on the data received from each carrier, and thus ensures that none is missing, or duplicated.

Main Billing System

Processed data is loaded into the Main Billing Systems and from there to the customers' bills.

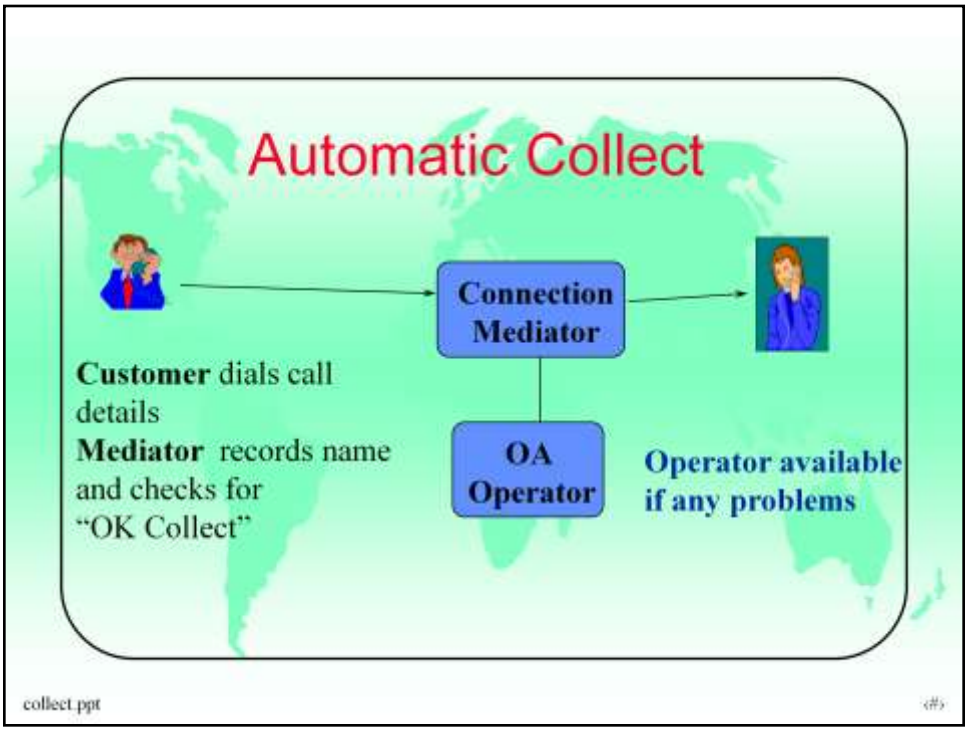
A further data stream, not shown, takes a copy of the data to International Settlements.



Data is sent from Operators equipment to Main Billing System…

…and from there to the customers' bills.

A further data stream, not shown, takes a copy of the data to International Settlements.



Customer dials a freephone number (which may be to a direct Service, or a local system), and responds to prompts given by Mediator.

Mediator records callers name, checks connect-to number as valid, and plays script to customers.

Voice recognition or tone responses indicate whether call is accepted or not.

Mediator completes connection and controls call.

Billing record is generated by Mediator , and passed on to the rest of the billing system.

This system is currently in use for domestic calls in USA.

In Canada a similar system is used for outgoing (Canada to other countries) collect call, the "OK Collect" is obtained by an operator.

International Settlements receives statistics from the Main Billing System and IBS which enables the group to declare to the sending carriers how many calls/chargeable minutes have been received.

All these calls have to be settled with the sending carriers, whether the customers pay their bills or not – some records may not even go on a bill due to inaccuracies in the received data.

End

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