



Office of the Director of  
**Telecommunications  
Regulation**

**GENERAL**

## CPS Call Quality Summary Report

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## **Foreword by the Director**

Carrier Pre Select (CPS) is a key enabler for the development of competition in telecommunications. It is therefore vital that CPS customers can expect the same quality of service as those directly connected to a network. In response to concerns raised by a number of operators the ODTR commissioned an investigation into CPS call quality. This investigation was performed by Mason Communications (independent telecommunications consultants).

An industry agreed Steering Committee was formed to address the testing of the CPS product. The Committee consisted of three operators, eircom, Esat and WorldCom, along with the ODTR and Mason Communications.

The purpose of this testing was to check the quality of CPS calls from the customer perspective and details of the various tests undertaken are as set-out below. I am pleased that these results quite clearly shows that the quality of calls made using the CPS service is to a high standard and comparable to any direct access service in Ireland today.

**Etain Doyle,**

**Director of Telecommunications Regulation.**

## Introduction

In response to a public tender Mason Communications was commissioned by the Office of the Director of Telecommunications Regulation to conduct a quantitative analysis of Carrier Pre Select (CPS) call quality in Ireland.

Operationally CPS is the simplest way of enabling competition in the telecommunications voice market. A customer can select an alternative operator to eircom to provide standard telephony services using CPS. The CPS customer has a choice of “Outgoing International Calls”, “Outgoing National Calls”, “Outgoing National and International Calls” or “All Calls”.

Whichever CPS option is selected the customer retains their eircom line and the local eircom exchange is programmed to route the selected outgoing call requests to the Other Licensed Operator (OLO) network. The OLO network then takes over responsibility to connect and bill the customer for the call. Incoming calls are routed in the normal manner.

The purpose of the survey was to test whether there was any difference in the quality of telephony service experienced by the customer using eircom direct compared with the CPS service from an OLO. The two most significant quantifiable parameters in customer call quality perception were measured. These are Post Dial Delay (PDD) and Call Completion Rate (CCR).

PDD is the time interval between the time when the customer has completed dialling the required number, and the time when the customer receives a confirmation tone. This would be a ringing tone if the call has been set up successfully or an engaged or network congestion tone if the call is unsuccessful.

CCR measures the percentage of successfully connected calls relative to the total number of call attempts. Successful calls are those calls where the customer receives “ringing tone” or a “called party busy tone”.

Two OLOs, Esat Telecom and WorldCom, and eircom participated in the tests. Each OLO provided a customer premises with a standard PSTN line. The test routine involved the following:

- A selection of call types involving local, national, international, mobile and free-phone
- Test calls were made using “All Calls” CPS and, at the same location, direct over the eircom network using the eircom Carrier Selection code.
- Ten geographically dispersed locations throughout the country
- A mix of primary and secondary exchanges
- Different levels of OLO interconnect (interconnection with the eircom network)
- A mix of exchange manufacturer types, and transmission networks

An automated test unit was used which initiated all calls and recorded the results.

## Summary of findings

- Overall the test results indicate no significant statistical difference in call quality between CPS and Carrier Selection (CS) over eircom.
- For local calls the test results showed minor regional variations in the measured parameters, but these apply equally to eircom and the OLO.
- The test results displayed uniformity in relation to mobile and national calls, independent of geographical location and operator.

### Post Dial Delay

PDD for local calls varied between geographical locations, but not between operators at that location. The measurement varied from 0.5 to 2.7 seconds with a national average of 1.5 seconds. This variation is due to the differences in length of local telephone numbers in some areas, e.g. six or seven digits, and how the individual exchanges process these.

PDD for national calls was generally consistent at 0.7 seconds across all locations.

PDD for calls to mobile numbers was 1.7 seconds, irrespective of customer location.

PDD for free-phone calls is generally 0.5 seconds.

The PDD for international calls depends on the call destination. Consistent average figures per destination varied typically between 3.0 and 3.6 seconds.

### Call Completion Rates

After making over two thousand telephone calls, an overall call completion rate of 98% was experienced.

Overall local, national and international calls gave a CCR of 98%, with mobile and free-phone calls slightly below at 97%.

The above figures were consistent between the various operators.

## Conclusion

Mason Communications conclude there is no evidence to suggest there is any difference in the processing of voice calls, whether the service is offered by eircom or via an OLO using CPS.