



Commission for
Communications Regulation

Information Notice

eircom's Performance in the Delivery of Leased Lines to Other Licensed Operators

Review of Performance under the Carrier Services Service Level Agreement Regime

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1 Introduction

The timely delivery of leased lines is a key enabler of the development of competition in a liberalised telecommunications market. Service Level Agreements are critical to this aim, particularly as operators can be constrained in their ability to offer a credible level of service to their customers if they do not have certainty over the quality and timely delivery of service provided to them. Quality encompasses many attributes ranging from provisioning times to in-service performance and fault management where problems occur. An SLA will typically set out the expected targets to be reached in these areas along with the level of penalties for failing to meet them.

ComReg considers that the development of the Carrier Services Service Level Agreement ("SLA") regime between eircom and the OLOs has and continues to be an effective and efficient method for addressing issues regarding the delivery and maintenance of leased line services. While much has been achieved over the last number of years, ComReg wishes to ensure that eircom continues to deliver services in a timely manner and according to the dates committed to OLOs at the time of order.

The purpose of this paper is to review eircom's performance over the period since the Carrier Services SLA was last revised in July 2002 and assess the current targets set out in the Carrier Services SLA to ensure they continue to meet evolving market needs. Whilst it is not intended to conduct a whole scale structural review at this time, ComReg is mindful of recent developments with regard to specific retail offerings and their wholesale equivalents which may have a bearing on the targets set out in the Carrier Services SLA. These developments may have a particular impact on the targets for service availability of leased lines and maximum repair time for ISDN circuits. ComReg intends to review these particular elements of the SLA in conjunction with eircom and the industry.

2 Background

The primary driver for leased line improvements has been the Carrier Services SLA regime. This was originally put in place in August 1999 but revised in November 2000 and most recently in February 2001¹. The scope of the SLA encompasses the provision of ISDN BRA and ISDN PRA circuits and leased lines circuits, up to 155 Mbits, ordered by OLOs for the purpose of providing access from customer premises to their network. The sections below briefly describe the structure of the SLA regime, requirements in relation to the publication of performance data and some general trends in delivery. The SLA is available on the wholesale section of eircom's website.

2.1 Structure of the SLA Regime

2.1.1 Service Provisioning Processes Attributes

The SLA sets out the processes and the associated timescales which are to be followed after the receipt of an order through to notifying the OLO of delivery of the circuit. The current processes are:

- **Order Receipt:** This is receipt of a valid order from an operator. The SLA delivery clock begins at this time.
- **Order Acknowledgement:** This confirms that the order has been received by eircom and that it was processed correctly. This takes place up to 2 days after the order was received by eircom.
- **Order Validation:** This is an important step as it identifies whether an order is to be classified as standard i.e. deliverable within the standards set out in the SLA or whether it is Non Standard i.e. there is an element to the order which will require additional work which may result in a longer delivery time. Standard orders will be provided with a due delivery date at this time. Additional time is given to provide a due delivery date for non standard orders. Order validation takes place between 10 to 13 days after the order was received depending on the category of circuit.
- **Order Forecast:** An order which has been classified as non standard is provided with a Due Delivery Date at this stage. This then becomes the date against which the SLA is measured. This should take place at day 19 for sub 2 M/bit circuits, day 22 for 2 M/bit and day 32 for higher capacity circuits such as 34 M/bit circuits.
- **Delivery Confirmation/ Reconfirmation:** This is provided to the operator one day prior to delivery to confirm that the delivery date committed by eircom will be met. Where it states that this date will not be met, a revised delivery forecast must be provided within 3 days of delivery confirmation
- **Delivery Notification:** This is the issuance of a completion notice by eircom to the OLO

¹ Decision Notice D2/02 "Service Levels Provided to Other Licensed Operators by Operators with Significant Market Power"

Table 1 below outlines the current process point and SLA Targets (in working days) for all circuits within the scope of the SLA (Please see appendix 1 for process point definitions):

Table 1: Current process point and Associated SLA Targets (in working days)

Product	Order Receipt	Order Acknowledgment	Order Validation	Order Forecast	Due Delivery Date	Delivery Confirmation	Delivery Notification	Revised Delivery Forecast	Delivery Revised Confirmation
M1020/M1040 LL	T	T+2	T+10	T+19	T+22*	DDD-1	DDD	DD+3	DRF-1
ISDN-BRA	T	T+2	T+10	T+19	T+22*	DDD-1	DDD	DD+3	DRF-1
<2MB LL	T	T+2	T+10	T+19	T+22*	DDD-1	DDD	DD+3	DRF-1
ISDN PRA	T	T+2	T+13	T+22	T+26*	DDD-1	DDD	DD+3	DRF-1
2 MB LL	T	T+2	T+13	T+22	T+26*	DDD-1	DDD	DD+3	DRF-1
34 MB LL	T	T+2	T+13	T+ 32	Date at forecast	DDD-1	DDD	DD+3	DRF-1
155MB LL	T	T+2	T+13	T+ 32	Date at forecast	DDD-1	DDD	DD+3	DRF-1

LL = Leased Line

T = Date at which the orders is received by eircom and the point at which the SLA clock starts

DDD = Due Delivery Date i.e. for standard orders the DDD is the committed date as provided at order validation equating to the SLA timeframes and for non standard orders the DDD is the committed date provided at order forecast

* = Timeframes indicated are for standard orders, for non standard orders the DDD is that which is provided at Order Forecast.

2.1.2 Delivery Timeframes

Delivery Timeframes, as set out in table one above, vary according to category of circuit but for standard orders range from 22 to 26 days. For non standard orders the delivery timeframe will be provided at order forecast. Higher capacity circuits will be provided with a delivery date at order forecast stage.

2.1.3 Service Assurance Metrics

The SLA sets out the ongoing level of service that can be expected when the circuit is in service and details what happens in the event of a fault. The current SLA sets out a maximum Repair time for ISDN and a maximum response time and a service availability measure for Leased Lines.

2.1.4 Penalty Regime

The penalty regime comprises of penalties for failure to meet

- up to a maximum of three service provisioning process points
- a provisioning penalty mechanism which is used to calculate eircom's penalty liability for the late delivery of leased lines and ISDN lines under the SLA
- and a penalty for breaching the service availability guarantee or maximum response time.

2.2 Publication of Information on Performance

ComReg believes that a key driver in ensuring that delivery lead times continue to improve is the provision of publicly available information that allows for the monitoring of performance on a monthly basis. To this end, ComReg has required eircom to publish a range of performance metrics covering all aspects of Leased Line Delivery. These metrics which are available on the Carrier Services section of eircom's website include:

- **average delivery:** on a monthly basis broken down by standard and non standard for 100% and 95% of orders for the total market and separately the OLO market
- **due date performance:** the percentage of circuits which were delivered within the timeframes set out in the SLA or the date given at order forecast in the case of non standard orders
- **age analysis:** the age of all outstanding orders on the order books
- **SLA process point compliance:** eircom's performance in meeting the timeframes set out in the SLA for the issuing of process points

2.3 General Trends in Delivery Performance

The effects of the SLA on delivery lead times in Ireland were noted in the ECTA Seminar on Leased Lines which took place in June 2002 where it was stated that the extraordinary improvements in delivery of leased lines in Ireland were due in large part to the effectiveness of the stringent SLA regime. The improvements have seen average delivery times remain at approximately 20 days or below since July 2002. In addition to average delivery there has been a significant improvement in eircom's due date performance (the frequency with which eircom deliver a circuit according to the date committed to the OLO during the ordering stage). eircom had committed to achieving a staged improvement in due date performance which saw them reaching a target of 80% by the end of 2001 and 95% by the end of 2002. Recognising the importance of certainty around delivery and to further incentivise performance, the revised SLA provided for the waiving of delivery penalties in the event that eircom are successful in delivering 95% of orders to an individual OLO in a particular quarter.

The rest of this paper explores in depth eircom's performance in relation to the processes set out in the SLA as well as the speed and certainty which an operator can now expect when ordering a leased line.

2.4 Amended SLA Regime

This latest amendment to the SLA regime in February 2001 provided for a number of significant changes which included, inter alia:

- revised delivery timeframes,
- additional delivery process points aimed at increasing the visibility of delivery dates e.g. a separate order forecast process point which provides a due delivery date for all non standard orders
- enhanced fault management metrics to allow for a service availability measure of 99.8% and a shorter response time of 3 hours for leased lines and a reduced maximum repair for ISDN circuits of 12 hours
- all backed by penalties for failure to meet target times and more stringent reporting requirements.

Following publication of D2/02 the Carrier Services O&M forum was reconvened to develop the processes under the SLA and ensure that all parties have the appropriate understanding of their respective roles and responsibilities. Following a series of meetings discussing all aspects of the SLA a revised SLA was subsequently published by eircom on the 1st July 2002, as directed. A complete review of the O&M manual, which outlines the processes supporting the SLA, was also instigated. The O&M forum continues to meet on a quarterly basis to review the operation of the SLA and eircom's performance in relation to all aspects of the Carrier Services SLA. OLOs are afforded an opportunity at the O&M to comment on any aspects which they feel are not working and to provide feedback on performance.

At the time of the last review it was stated that ComReg would monitor eircom's performance under the revised SLA closely with a view to deciding whether or not a further reviews of the SLA regime would be necessary.

2.5 Reporting Requirements

The last revision to the SLA regime in February 2002 outlined a number of additional reporting requirements to be placed on eircom, as ComReg considered that comparative reporting arrangements are an integral part of an SLA.

Due to systems changes within eircom there was a considerable delay in the publication of the additional reporting requirements on their website. Despite the delay, however, ComReg believes that the existing arrangements represent a composite suite of the information needed by industry and ComReg to monitor eircom's delivery performance.

ComReg considers that there is merit in extending the current reporting requirements to include eircom's performance in relation to fault management parameters and will be discussing with eircom when and how this can be achieved.

3 Review of Performance

It has been acknowledged that there has been a significant improvement in the eircom's performance in relation to the delivery of leased lines in 2002 and 2003. In summary, average delivery timeframes have fallen from between 50 and 70 days 2001 to approximately 20 days and below in 2003. This has been coupled with visible improvements in the percentage of orders which are delivered according to their due date i.e. the date promised to the customer.

eircom had reached the ComReg target of 80% of orders being delivered by their due date by the end of 2001. This target was increased to 95% by the end of 2002 and was achieved by eircom. While eircom's improvement in delivery is welcome, ComReg wishes to ensure that the improvements to date are at least sustained. The following sections detail eircom's performance over the period since the introduction of the revised SLA i.e. July 2002 to date.

3.1 Process Point Compliance

As stated in the previous section, managing customer expectations is a critical element in the provision of leased lines by eircom to OLOs. OLOs rely on being able to provide their customers with accurate and timely information about when they can expect installation of their circuit. A principle aim in the development of the SLA has been to develop a rigorous set of delivery processes underpinning each element of the end to end delivery of a circuit. The definitions of each of these delivery process points are included in Appendix 1 and the targets timeframes associated each of these have been outlined in Table 1. Compliance with these process points is integral to the effectiveness of the SLA and the SLA regime provides that failure to meet a process point target results in the payment of a penalty by eircom to the OLO.

eircom's compliance with the process point targets under the SLA for the period March to May 2003 are highlighted in Table 2 below. This table indicates that only in the minority of cases is there a delay in issuing the relevant process point. A further analysis by ComReg of these figures indicates that the vast majority of process points are met before the SLA target.

Table 2: General Process Point Compliance under the SLA March to May 2003

	March	April	May
Product Type			
2M LL	94.4%	98.5%	93.9%
> 2M LL	N/A	100%	100%
Sub 2M LL	94.4%	96.2%	93.3%
ISDN BRA	94.1%	98.8%	98.9%
ISDN PRA	100%	100%	100%
Total	95%	97.2%	96%

The category with the lowest compliance with the SLA process points over the period is that of Sub 2 Mbits Leased Lines. This, however, is the category with the largest number of orders, accounting for at least 50% of orders over the period. A further analysis of the figures reported in this category reveals that the process point on which eircom failed most often is that of Delivery Notification whilst almost all orders were validated on time and that only just over 1% of order forecasts were late. Appendix 2 contains a complete breakdown of all categories of circuits by process point for the Month of May but a breakdown for the months of March and April can be found on eircom's website.

While there may be a small number of instances highlighted above where the process point was issued late ComReg has not been made aware of any deficiencies in the make up of the process points themselves i.e. the defined set of processes set out in the SLA are fit for purpose and provide the requisite provisioning information. ComReg does not feel that it would be beneficial at this point to propose any amendments to the process points as such amendments can cause disruption to the process.

3.2 Average Delivery Performance

One of the primary aims of the SLA regime has been to incentivise the speed and accuracy according to which eircom delivers leased lines to OLO. The SLA regime was borne out of a situation in 1999 where Ireland had one of the longest lead times in Europe for the delivery for leased lines. ComReg's policy in developing the SLA regime is to ensure that Ireland is firmly placed in the top quartile in Europe for leased line delivery lead times.

Table 3 below outlines eircom's performance for the period July 2002 to December 2002 in relation to average delivery timeframes for 95% of leased line orders to other licensed

Wholesale Market	July			August			September		
	95% of orders			95% of orders			95% of orders		
	Standard	Non Standard	Total	Standard	Non Standard	Total	Standard	Non Standard	Total
Total orders	15	23	17	14	32	22	19	22	20
Sub 2 Mbits orders	14	27	17	14	32	22	18	22	20
2 Mbits orders	18	16	17	25	32	29	22	0	22
Wholesale Market	October			November			December		
	95% of orders			95% of orders			95% of orders		
	Standard	Non Standard	Total	Standard	Non Standard	Total	Standard	Non Standard	Total
Total orders	16	26	20	14	23	17	16	18	16
Sub 2 Mbits orders	16	25	20	14	23	17	15	18	16
2 Mbits orders	19	39	25	8	0	8	19	20	19

operators. The figures show a sustained improvement over this period, with delivery for total orders ranging from 22 to 16 days. While there are some instances where longer non standard lead times have been reported for a particular category of circuit, these have been accounted for by eircom in terms of a small sample size with one particular order being delayed for a long period.

Table 3: Leased Line Average Delivery Performance July to December 2002

Wholesale Market	July			August			September		
	95% of orders			95% of orders			95% of orders		
	Standard	Non Standard	Total	Standard	Non Standard	Total	Standard	Non Standard	Total
Total orders	15	23	17	14	32	22	19	22	20
Sub 2 Mbits orders	14	27	17	14	32	22	18	22	20
2 Mbits orders	18	16	17	25	32	29	22	0	22
Wholesale Market	October			November			December		
	95% of orders			95% of orders			95% of orders		
	Standard	Non Standard	Total	Standard	Non Standard	Total	Standard	Non Standard	Total
Total orders	16	26	20	14	23	17	16	18	16
Sub 2 Mbits orders	16	25	20	14	23	17	15	18	16
2 Mbits orders	19	39	25	8	0	8	19	20	19

Non Standard orders are those orders where there are impediments to eircom delivering the order. Such impediments include infrastructure build or circumstances relating to Core Transmission Networks. Non Standard orders do not receive a standard delivery timeframe but are provided with a due delivery date at the order forecast stage. ComReg continuously monitors eircom's performance with regard to non standard orders and is pleased to note that the average delivery timeframe for non standard orders was approximately 26 days during the last six months of 2002 which is not greatly in excess of those reported for standard orders.

The trend for improved delivery performance in terms of the speed of delivery has continued into 2003.

Table 4 below outlines the average delivery figures for the first five months of 2003.

Table 4: Leased Line Average Delivery Performance January to May 2003

Wholesale Market	January			February			March		
	95% of orders			95% of orders			95% of orders		
	Standard	Non Standard	Total	Standard	Non Standard	Total	Standard	Non Standard	Total
Total orders	17	23	18	14	27	18	16	21	18
Sub 2 Mbits orders	16	22	18	14	27	18	16	21	18
2 Mbits orders	22	28	23	14	29	19	16	15	16
Wholesale Market	April			May			Data not currently available for June		
	95% of orders			95% of orders					
	Standard	Non Standard	Total	Standard	Non Standard	Total			
Total orders	14	22	16	13	20	15			
Sub 2 Mbits orders	17	22	19	13	20	15			
2 Mbits orders	4	0	4	8	0	8			

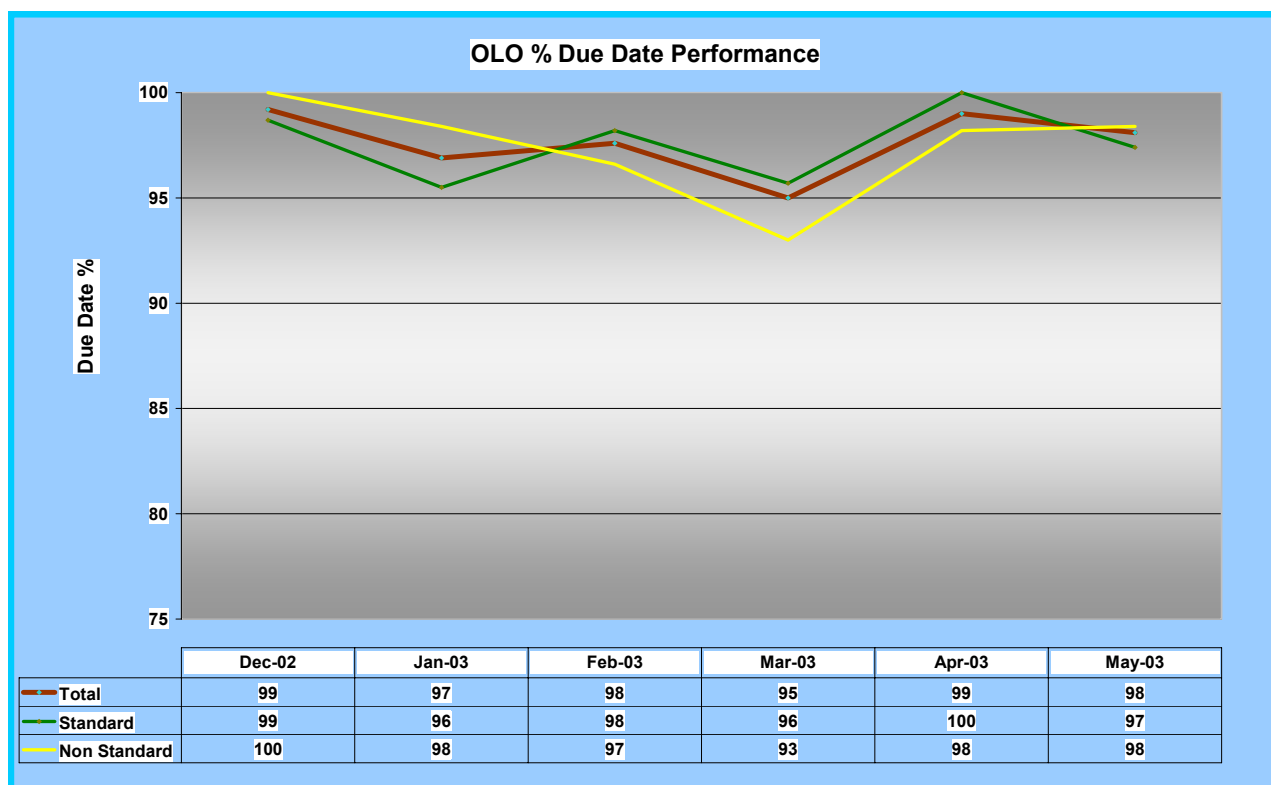
Average delivery for total orders has remained at or below 18 days since the beginning of 2003, with non standard delivery timeframes again either within the standard SLA timeframes or only marginally outside. Therefore the speed with which eircom is delivering circuits to other licensed operators has continued to improve.

3.3 Due Date Performance

While speed of delivery has been a key concern for operators, so too has been the accuracy according to which eircom meets the promised due delivery dates (DDD). During the order process eircom will provide an OLO with a date on which it can expect to receive an order. The DDD is provided at either the Order Validation stage for standard orders or the Order Forecast stage for non standard orders (see Appendix 1 for definitions). The receipt by OLOs of a DDD is a key tool for operators in managing their customers' expectations, especially where an order has been classified as non standard. eircom has sought to focus efforts on improving the accuracy of the DDD and all delivery efforts are aimed at ensuring these are met. In 2001, eircom committed to achieving a target whereby 80% of orders were delivered by their DDD. This was achieved and a revised ComReg target of 95% was agreed and achieved for 2002 and beyond.

You will see from Table 5 below that eircom achieved their target in that over 95% of orders were delivered by their due date by the end of 2002 with a figure of 99% in December. This figure has steadied to a position consistently above 95% in 2003.

Table 5: Leased Line Due Date Performance between October 2002 and May 2003



ComReg considers that this level of due date performance demonstrates that significant improvement have been made by eircom. The average delivery figures and DDD performance levels show that OLOs are now in a position to assure their customers not only that their circuit be delivered in a timely manner but also by the date which is committed to them when ordered. ComReg will monitor progress closely to ensure that eircom continue to perform to this level going forward.

4 Summary and Next Steps

ComReg has always sought to ensure that the Carrier Services SLA regime continues to focus on evolving market needs while at the same recognising improvements in performance. Given that eircom's performance in the delivery of leased lines has demonstrated a sustained improvement over the period since the revised SLA was introduced it is not intended at this time to open up the SLA regime for large scale review. It is considered that the principles and processes contained in the Carrier Services SLA continue to represent an efficient and effective means of managing the carrier services provided by eircom to other licensed operators.

A brief overview of performance shows that:

- Average Delivery remains at or below approximately 20 days
- Due Date Performance is consistently above the 95% level
- Process Point Compliance consistently at the 95% level

ComReg considers this level of performance to be currently acceptable and that overall, the broad structure of the SLA regime meets the needs of the market. However, revisions to the structure may be necessary having regard to developments in SLAs governing other wholesale products. ComReg recognises that there have been developments in other product areas (Partial Private Circuits, Friaco etc) that may have an impact on some aspects of the Carrier Services SLA over the coming months, namely service assurance standards (fault management). In particular concern was voiced by some operators at the last meeting of the Carrier Services Operations and Maintenance (O&M) forum that the use of the service availability measure does not fully meet the needs of the industry, for Leased lines or for Partial Private Circuits, and that the needs of some operators would be better met by the combination of a maximum repair time and service availability.

ComReg has committed to review the adequacy of the service availability measure over the coming months and will be closely monitoring eircom's performance in relation to fault repair before determining whether a change to this element of the SLA is warranted. OLOs have been advised in the Carrier Services O&M forum that should they experience any major issues with regards to fault repair in the interim that they should contact ComReg and that their actual experiences in terms of fault repair will be taken into account when reviewing the performance of the service availability measure.

Whilst it is not intended to alter the structure of the fault management measures pending the outcome of a review of performance ComReg will, however, be reviewing the targets set out under this area of the SLA in light of developments in the SLAs offered for equivalent retail products. At present the maximum repair time for wholesale ISDN circuits is 12 working hours and all categories of wholesale leased lines attract a service availability guarantee of 99.8%. ComReg will be engaging in discussions with eircom to determine whether these levels continue to offer the optimum level of service assurance for wholesale products. The outcome of any review of the targets will be discussed at the next meeting of the O&M Forum as the forum has proven to be an effective vehicle through

which changes to the processes supporting the SLA regime can be implemented in an effective and collaborative manner.

While ComReg has already indicated to the O&M forum that it would welcome feedback from all operators on the performance they are currently experiencing under the service assurance area of the SLA, ComReg would also welcome feedback from operators on any other aspect of the SLA. ComReg will, in conjunction with the members of the O&M forum continue to closely monitor developments over the coming months, with areas for development being discussed and if necessary implemented through the O&M forum.

Any comments on the SLA regime should be sent to susan.oshea@comreg.ie

Appendix 1 - Sales Process Points Definitions

- Order Receipt (OR) : the forwarding of a valid order to *eircom* on a standard order form. The SLA “clock” begins when the order form is received by *eircom*.
- Order Acknowledgement (OA): the acceptance of an order form by *eircom* and acknowledgement to the OLO that the order has been received, the order form is correctly filled in and is being processed.
- Order Validation (OV) : confirmation, or otherwise, that an order is deliverable by *eircom* within the standards set down in the SLA. Standard order delivery time is in accordance with the delivery times listed in Table 1. The appropriate dates will be given at Order Validation. Where appropriate this step shall include a site survey. At the end of the Order Validation Step three events are allowable:
 - The order is determined to be within the definition of a “standard” order and a delivery date is set in accordance with the appropriate SLA.
 - The order is determined to be a “non-standard” order under the allowable exceptional circumstances set out in Appendix 1
 - Should a customer request a circuit to be delivered on a date after the calculated Delivery Due Date (Standard or non-standard) then this date shall become the due delivery date and shall be taken as the standard delivery date for the purposes of SLA compliance calculations.
- Order Forecast(OF) - Notification to the OLO of a delivery date of an order that is validated as “non-standard”. This delivery date shall be taken as the “standard” date for the purposes of SLA compliance calculations.
- Delivery Confirmation (DC): prior to the delivery date *eircom* shall confirm in writing to the OLO as to whether the delivery date will be met. This will enable OLOs to better manage their customers’ expectations. In the event that the Delivery Confirmation advises that the Delivery will not be met *eircom* must advise the OLO of the revised Delivery Date(RDF) within 3 days of the original due delivery date. Should the new delivery date be in excess of ten working days of the previous Due Delivery Date then the Delivery Confirmation process begins again.
- The Delivery Confirmation/Reconfirmation shall be considered a single process for penalty calculation purposes.
- Delivery of Service : the provision of the purchased service by *eircom*.
- Delivery Notification (DN): date of issuance of a Completion Notice by *eircom* to the OLO.

Appendix 2 - Process Point Compliance May 2003

Process Points Breakdown 1st-30th May						
Volumes						
SLAType	PPName	Sent	Early	On Target	Late	Penalty €
2M Leased Line	Acknowledgement	48	48	-	-	
	Validation	44	43	1	-	
	Forecast	10	10	-	-	
	Delivery					
	Confirmation	11	7	2	2	
	Revised Forecast	8	6	-	2	
	Delivery	24	11	8	5	
	Cancelled	2	-	2	-	
2M Leased Penalty Total		147	155	13	9	
Greater 2M Leased Line	Acknowledgement	6	6	-	-	
	Validation	5	5	-	-	
	Forecast	5	5	-	-	
	Delivery					
	Confirmation	1	-	1	-	
	Delivery	1	-	1	-	
	Cancelled	1	-	1	-	
Greater 2M Leased Line Penalty Total		19	16	3		
ISDN BRA	Acknowledgement	61	61	-	-	
	Validation	57	35	22	-	
	Forecast	2	2	-	-	
	Delivery					
	Confirmation	8	5	2	1	
	Delivery	47	7	39	1	
	Cancelled	8	-	8	-	
ISDN BRA Penalty Total		183	110	71	2	
ISDN PRA	Acknowledgement	16	16	-	-	
	Validation	142	140	2	-	
	Delivery					
	Confirmation	126	117	9	-	
	Forecast	123	123	-	-	
	Delivery	128	126	2	-	
	Cancelled	2	-	2	-	
ISDN PRA Penalty Total		537	522	15		
Sub 2M Leased Line	Acknowledgement	126	126	-	-	
	Validation	124	118	5	1	
	Forecast	85	69	2	14	

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	Delivery Confirmation	204	158	41	5
	Revised Forecast	51	46	2	3
	Revised Delivery	8	4	1	3
	Delivery	282	195	53	34
	Cancelled	12	-	12	-
	Sub 2M Leased Line Total	892	716	116	60