

## BULLETIN DE PARIS No. 2007 – 025

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### NOUVELLES POSSIBILITÉS DE CONNEXION À LIFFE CONNECT®

#### Sommaire:

Ce Bulletin a pour but de diffuser auprès des membres la note technique détaillant le déploiement de trois nouveaux types de connexion à LIFFE CONNECT®.

Parallèlement aux solutions déjà existantes, ces nouveaux types de connexion comportent des infrastructures dédiées aux plateformes Financial et Equities, des liens à très haut débit (100MB) et la possibilité d'héberger des serveurs de négociation dans un local technique de Liffe afin d'être au plus près des plateformes de négociation de LIFFE CONNECT® ("Co-Localisation").

**Tout participant au marché souhaitant bénéficier de la Co-Localisation devra confirmer cette décision à la Bourse au plus tard le 17 octobre 2007 afin d'être prêt pour la mise production.**

Ce document étant rédigé en anglais, merci de bien vouloir contacter pour toute demande d'information complémentaire votre Chargé de Clientèle ou les interlocuteurs suivants:

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### NEW CONNECTIVITY OPTIONS FOR LIFFE CONNECT®

#### Executive Summary

The purpose of this Circular is to advise members about the introduction of three new methods for achieving connectivity to LIFFE CONNECT®.

In addition to existing solutions, the new connectivity methods will include dedicated Financials and Equities infrastructures, high bandwidth tail circuits (100MB), and the ability to co-locate trading servers within a Liffe datacentre to be closer to the LIFFE CONNECT® trading engines (“Co-Location”).

**It should be noted that any customer seeking Co-Location must confirm this decision to the Exchange no later than 17 October 2007 in order to be ready for go-live.**

For further information in relation to this Circular, members should contact their Account Manager or the following:

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## NEW CONNECTIVITY OPTIONS FOR LIFFE CONNECT®

### 1. Introduction

- 1.1 In this Circular references to LIFFE shall mean LIFFE Administration and Management and references to Liffe shall mean any of the derivatives markets of Euronext.
- 1.2 LIFFE currently offers standard connectivity to the LIFFE CONNECT® trading engines via a fixed bandwidth of 2 x 2MB (E1) lines in Europe and Asia, or 2 x T1 lines in the US market, either directly to customer sites or via Application Service Provider”ASP”) arrangements<sup>1</sup>.
- 1.3 In order to deliver all Liffe markets via a T1 / E1 solution, LIFFE CONNECT® employs a sophisticated compression algorithm at its market data distribution points, or “hubs”. At peak market data rates, hub compression can potentially result in distribution latency experienced in the end-to-end service received by customers.
- 1.4 Recent growth in market data generated, in particular, by heavily quoted options markets has resulted in LIFFE CONNECT® generating market data rates in excess of T1 / E1 capacity. For customers who are subscribed to all Liffe markets, peak market data rates (if uncompressed) can reach 30MB, and data rates are forecast to continue to rise in 2008.
- 1.5 For customers who wish to mitigate or minimise these latency risks, LIFFE will offer customers the choice of three new (optional) connectivity solutions, namely the ability: (i) to dedicate their current T1 / E1 infrastructure to either the Financials or Equities markets; (ii) to replace the existing infrastructure with an upgraded 100MB infrastructure, or (iii) to co-locate their trading applications in a Liffe datacentre to be closer to the LIFFE CONNECT® trading engines.
- 1.6 **It should be noted that the new connectivity solutions for accessing LIFFE CONNECT® are optional, and customers may elect to remain with their existing infrastructure and configuration, or to opt for the new solution(s) in addition. None of the options are mutually exclusive and customers may elect to select more than one option.**

### 2. Dedicated T1 / E1 infrastructure to Financials or Equities

- 2.1 LIFFE currently offers access to its four trading engines via dedicated Financials or Equities gateways.
- 2.2 The products are allocated in the following manner:

Gateway	Product Group
Financials	London Financials (including Index Futures), London Index Options; and London Commodities, Paris Financials (including Index products), Paris Commodities, Lisbon Derivatives
Equities	Amsterdam Equity Options, Brussels Equity Options, Paris Equity Options; and Amsterdam Indices, Belgian Indices, London Equity Options

<sup>1</sup> T1 is the standard bandwidth offering to US customers, representing 2 x 1.5 MB lines.  
E1 is the standard bandwidth offering in Europe and Asia, representing 2 x 2 MB Lines.

- 2.3 A standard LIFFE CONNECT® infrastructure is delivered with a pair of T1 / E1 lines and one Financials and one Equities gateway. However, many members trade exclusively the products which reside on either the Financials or the Equities trading engines, respectively.
- 2.4 LIFFE can dedicate an infrastructure to trade exclusively the products located on the Financials or Equities trading engines, which will lead to lower compression rates. This will improve end-to-end performance, as LIFFE CONNECT® will only need to send market data from either the Financials or Equities markets to that dedicated infrastructure.
- 2.5 In order to minimise market data compression, and hence latency, at market data peaks for E1 customers, LIFFE will disable market depth messages sent from the Equities trading engines, at a date to be confirmed in a subsequent Circular.
- 2.6 It should be noted that customers based in the US need not elect to dedicate their T1 lines, as due to regulatory restrictions, they are already operating on dedicated Financials T1 infrastructures.

**3. 100MB lines**

- 3.1 For customers who regularly subscribe to all Liffe markets, and who wish to minimise any latency introduced by market data compression, LIFFE will make available, via dedicated decompressed hubs, a 2 x 100MB solution. The Exchange recommends that any ASPs who provide multi-member access to LIFFE CONNECT® consider upgrading to this option.
- 3.2 Liffe will deliver a 2 x 100MB infrastructure as a fully managed solution, behind LIFFE CONNECT® Gateways, and the LIFFE CONNECT® API. The 2 x 100MB solution will be available to Liffe customers situated within 5km of the following Liffe “Points of Presence” (PoPs): Amsterdam, Chicago, London, Paris and New York.
- 3.3 LIFFE will charge a one-off installation fee of €50k to install the circuits, routers, and LIFFE CONNECT® Gateways for the 2 x 100MB solution. The annual rental for the 2 x 100MB lines, routers, and LIFFE CONNECT® Gateways will be €75k.

**4. Co-Location Service**

- 4.1 LIFFE recognises that some trading algorithms trade on a high velocity basis, and hence will benefit from minimising all factors which introduce latency, including the physical distance of the customer’s trading application from the LIFFE CONNECT® trading engines.
- 4.2 Hence LIFFE will offer a Co-Location Service to customers in Liffe’s London datacentre with the following specification:

<b>One Co-Location Unit</b>
½ Cabinet, secure, 18U rack space
6A / 1.5Kw power, dual power supply
1 GB Cross connect to LIFFE CONNECT®
2 Gateways (Financials / Equities)
100MB control circuit to customer site (within 5km of the London Liffe “PoP”; control circuits can also be delivered to Paris and Amsterdam clients but there may be an additional charge)

- 4.3 Customers who select this option will need to enter into an addendum to their existing LIFFE CONNECT® User and Licence Agreement, which governs the Co-Location Service. The addendum to the current LIFFE CONNECT® User and Licence Agreement must be executed by the member firm prior to enabling “live” trading via the Co-Location Service.
- 4.4 In order to ensure that any customers wishing to take advantage of the new Co-Location Service are able to do so on an equal footing, LIFFE has decided to offer a limited time period in which to secure a Co-Location Unit. This will enable LIFFE to launch the new Co-Location Service to the market in an orderly and equitable manner, with a critical mass of customers. **As a result, it should be noted that members and ASPs who wish to participate in the initial offering of Co-Location, must place any orders for a Co-Location Unit no later than 17 October 2007, and the initial go-live date will be announced shortly afterwards.** LIFFE may expand its Co-Location datacentre in 2008, based on customer demand, and at that time will invite members to order additional or more powerful Co-Location Units, and more LIFFE CONNECT® gateways. Members should indicate their preferred power and space requirements to their Account Manager.
- 4.5 Customers of the Co-Location Service should be aware that, for business continuity purposes, LIFFE also operates LIFFE CONNECT® trading engines in Paris. LIFFE may elect to run the “live” trading engines from Paris, in a business continuity situation. In this instance, Co-Located customers will equally experience the inevitable transit latency between London and Paris.
- 4.6 LIFFE will charge a one-off installation fee of €50k to install client servers in the Co-Location Unit, perform the necessary cabling work to cross connect onto LIFFE CONNECT®, and deliver the selected bandwidth control circuits to the customer site. The annual rental for a Co-Location Unit, including control circuits, will be €120k.

## 5. Next Steps

- 5.1 Members and ASPs who wish to take advantage of one or more of the new connectivity solutions should contact their Account Manager to discuss the optimal solution for them.
- 5.2 As part of any decision-making process, LIFFE will be able to provide interested customers with member-specific performance data, which will indicate the expected end-to-end performance improvements achievable under the new connectivity options.
- 5.3 Further details on go-live schedules will be the subject of a subsequent announcement.