



**LSEG**

**LONDON STOCK EXCHANGE GROUP**

**GROUP TICKER PLANT**

**GTP 007 -  
GTP LITE GUIDE**

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## 1. Documentation

### 1.1 This Guide

The purpose of this document is to provide an overview of the GTP Lite services underpinned by the Group Ticker Plant service lines.

It will be updated and reissued when appropriate to do so.

### 1.2 Readership

This document is particularly relevant to trading, market data and technical teams within member firms, information vendors and other market participants who currently receive or are interested in receiving market data through a TCP Real Time Service.

When read in conjunction with other Group Ticker Plant documents it is intended to provide all required information to develop to, and interact with, our GTP Lite real-time information systems.

### 1.3 Document Series

This guide, **GTP007 – GTP Lite Guide**, forms part of the documentation library supporting those clients interacting with the Group Ticker Plant. For information, the full series of currently available documentation is outlined below:

- GTP001 – Product Guide;
- GTP002 – Technical Guide;
- GTP003 – Statistics Guide;
- GTP004 – Parameters Guide
- GTP005 – Testing Guide;
- GTP006 – External Sources Guide;
- GTP007 – GTP Lite Guide (this document).

Further documentation to may be released in due course.

The full library of Group Ticker Plant documentation can be found at:

<https://www.lseg.com/areas-expertise/technology/group-technology/group-ticker-plant>

### 1.4 Document History

This document has been subject to the following iterations:

Issue	Date	Description
1.0	29 January 2014	First issue of this document

2.0	06 March 2014	Second issue of this document to reflect the launch of the Level 2 full-depth incremental GTP Lite Service.
3.0	17 April 2014	Updates as highlighted.
4.0	29 July 2014	Minor clarification as highlighted.
5.0	03 March 2020	3.1 – Updated due to Heartbeat message enablement on GTP Lite sessions
5.1	01 December 2020	All sections – Removed content related to Borsa Italiana and associated venues
5.2	01 August 2021	3.3 – Added a new section on encryption

In subsequent issues of this document, where amendments have been made, these changes will be indicated through the use of **red text** and sidebars (example left).

## 1.5 Enquiries

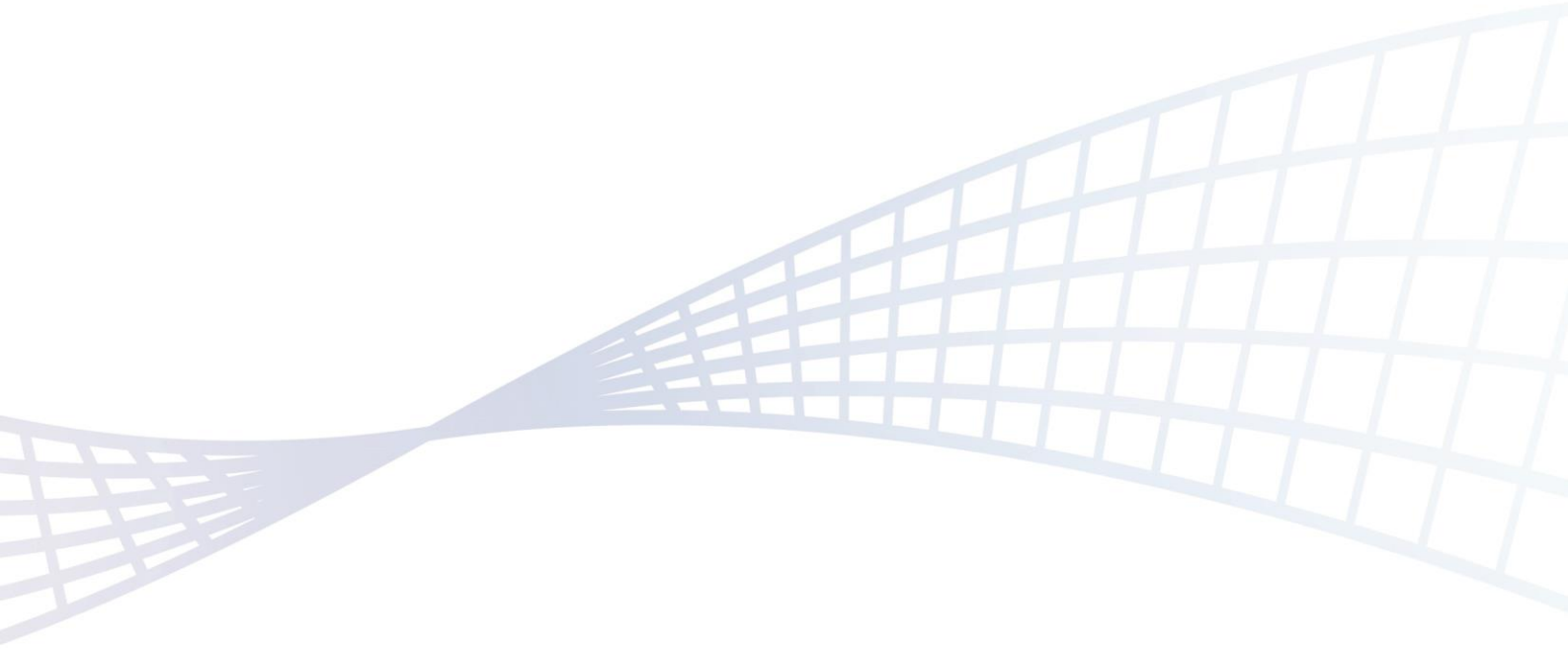
For further information on Group Ticker Plant, please contact either your Technical Account Manager or the Client Technology Services (UK):

- Telephone: (+44) 207 797 3939
- Email: [londontam@lseg.com](mailto:londontam@lseg.com)

Please contact the LSEG market data team for further information regarding data licensing for this service by emailing [marketdata@lseg.com](mailto:marketdata@lseg.com)

Further information can also be found on our project websites:

<https://www.lseg.com/areas-expertise/technology/group-technology/group-ticker-plant>



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## 2. Service Overview

The first tranche of Group Ticker Plant services was launched in late 2012. Whilst these services have become popular with the Group's Members, Information Vendors and ISVs based in London, the bandwidth requirement to support these services has proven to be a significant barrier for some customers and as such a solution has been made available for customers connected directly to the Group's core technology, requiring rich functionality but with limited connection capacity available.

GTP Lite will broadcast in a compressed binary format, based on TCP transmission and will operate on limited circuit capacities. Whilst GTP Lite is not a subscription service, it will, however, deliver a rich suite of functionality but is not advised for those customers who are latency and performance sensitive.

The Group currently has no plans to offer the GTP Lite service on the London Group Ticker Plant Production instance.

Any customer requiring guidance on the most appropriate Group Ticker Plant product to support their market data needs should contact their Technical Account Manager.

### 2.1 Data Sets

The first iteration of GTP Lite services will be launched to support the Group Ticker Plant Phase 1.0 services in TCP format. At go-live, GTP Lite will deliver the following service lines:

- Level 1 incremental service;
- Level 2 10 depth snapshot service;
- Level 2 full depth incremental service;
- Reference Data;
- Announcements;
- FTSE indices;



**Figure 1:** Service lines offered by the GTP Lite service.

Further information on the structure, including the functionality and design of these services, can be found in GTP001 – Product Guide.

## 3. System Overview

### 3.1 Architecture and subscription

The GTP Lite architecture has been designed to be scalable and resilient. The GTP Lite services will be housed on the same architecture as the Group Ticker Plant core services, leveraging the identical upstream architecture, including existing feed handlers and databases. The provisioned Group Ticker Plant replay and recovery solutions, used by customers recovering from message loss, outage or late join, will be provided to customers of the GTP Lite service.

Customers are required to establish a TCP session with the gateway and login to the service. In a similar approach to the core Group Ticker Plant service lines, customers will not be permitted to subscribe to a subset of instruments or messages on the supporting gateway.

Login to the GTP Lite services is done through the Login Request message, as detailed in section 3.9.1 of GTP002 – Technical Guide. Following successful login, validation of an active TCP session is done through the standard TCP 'keep-alive' mechanism. No explicit unsubscription from the GTP Lite service is required and closing the TCP session will disconnect customers from the GTP Lite service. In order to facilitate resumption of market data processing in the event of disconnections or late joins from Customers, the transmission of Heartbeat messages is enabled on GTP Lite sessions.

Customers should note, however, that no secondary market data service will be provided to customers using the GTP Lite service. Unlike the multicast services, whereby a secondary feed is routed on customer's resilient circuit, only a primary service, provisioned on a customer's primary circuit will be permissioned for GTP Lite users during normal service. In the unlikely event of component failure, a secondary GTP Lite service will be made available for subscription on customers' secondary circuit.

### 3.2 Connectivity

The GTP Lite service employs industry standard data delivery and recovery transmission techniques.

The GTP Lite service will use TCP over IP version 4 (IPv4) Ethernet standards. TCP Header information is defined in IETF RFC 793 standard and IPv4 is defined in the RFC791 standard. Further information is contained in section 2 of GTP002 – Technical Guide.

Customers should note that network topology information, including IP unicast addresses and port details, will be published in GTP004 – Parameters Guide, shortly.

### 3.3 Encryption

The GTP Lite service employs industry standard encryption techniques. Encryption is done using Transport Layer Security (TLS) 1.2 and the 'AES256-SHA' cypher suite.



GTP Lite uses self-signed certificates that are generated and renewed periodically by technical market operations teams before the expiry period elapses. These certificate files will be distributed to GTP Lite client applications when necessary.

Client applications should be developed in a manner where decrypting the encryption can be switched on/off with relative ease as Technical Market Operations may decide to enable or disable encryption on this feed as they see fit. In case such a change is being made, this will be announced to clients by Market Operations.

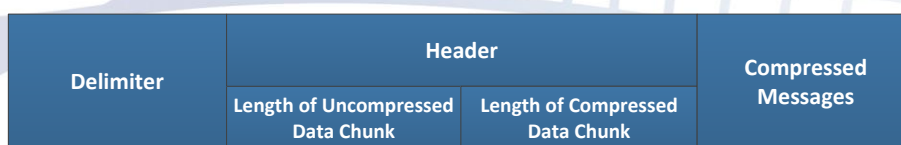
## 4. Message Formats

The GTP Lite services will deliver the same data as that of the core Group Ticker Plant services. The real-time data messages delivered by the GTP Lite service, whilst compressed to ensure the most efficient delivery, will be delivered in the same format as the core Group Ticker Plant service. All message formats, including uncompressed message length and data types, are contained within section 3 of GTP002 – Technical Guide.

### 4.1 Message Compression and Composition

All messages disseminated on the GTP Lite market data service will be compressed to ensure the most efficient possible data transmission. Compression will be done using the industry standard 'z-lib' library. To facilitate decompression, the message stream will be split into a series of data chunks – each chunk containing a number of compressed messages, as well as a delimiter and a message header.

The delimiter will contain an auto-generated unique number. Customers should note that this is not the sequence number of the message. The delimiter is followed by the chunk header, which will contain the total length of the messages in the chunk, both compressed and uncompressed – both of these values and the delimiter will be two bytes in length. The chunk header will then be followed by a number of compressed messages.



**Figure 2:** Structure of the GTP Lite message following compression

Customers should note that messages sent to logon to the GTP Lite service, and all messages sent to or sent from the replay and recovery solutions should be not be compressed.

### 4.2 Message Sequencing

All messages sent from the Group Ticker Plant service, including those transmitted on GTP Lite will be sequenced. GTP Lite messages will carry the identical sequence number to that of the corresponding Group Ticker Plant multicast service. Sequence numbers are not customer specific and are not, therefore, reset to 1 upon successful subscription to the GTP Lite service. Any customer subscribing to the GTP Lite service after messages have already begun disseminated should expect sequence numbers to be higher than 1.

## 5. Client Data Recovery

The Group Ticker Plant market data gateways, including those that support the GTP Lite services, provision TCP/IP data replay and recovery services to facilitate data recovery.

Unlike the core Group Ticker Plant market data services, the TCP nature of GTP Lite guarantees the receipt of each and every message disseminated on the GTP Lite channel. As such, whilst a replay service will be provisioned to customers, allowing them to re-request a finite number of missed messages, they are not expected to have to connect to it.

The recovery service will also be provided to GTP Lite customers. The recovery service is provided to assist customers recovering from a large-scale data loss or a late join to the market data services.

The recovery service allows customers to:

- request a snapshot of the order book for any active or inactive instrument in the Market Data Group. The snapshot will be either the MBP, MBO or level 1 service line dependent upon the recovery service targeted by the request;
- all trades reported for the trading day (both on and off book);
- a snapshot of the instrument's current statistics;
- the current trading status of an instrument;
- the full set of reference data for an instrument;
- announcements published by a venue on the target recovery service for a trading day.

The replay and recovery solutions provided to customers of the GTP Lite services are the same as those provided to customers of the core Group Ticker Plant service lines. As such, any customer with access to the replay or recovery solutions already provisioned to support Group Ticker Plant Production services will be able to use these login credentials to gain access.

Customers should use the existing library of TCP messages detailed in section 3.9 of GTP002 – Technical Guide to interact with either the replay or recovery solutions. Customers should note that whilst message sent to and received from the replay or recovery solutions will be in a TCP regime, no compression should or will be used.

Further information, including how to establish a connection to the replay and recovery services, how to request information to be sent and how to terminate a connection with either the replay or recovery service is detailed in section 4 of GTP002 – Technical Guide.

## 6. Product Failure

All Group Ticker Plant services, including GTP Lite and the core Group Ticker Plant services are designed to be robust and resilient. In the unlikely event of component failure, recovery has been designed to be transparent to customers wherever possible.

The local and remote resilience of GTP Lite components and service lines mirrors that of the core Group Ticker Plant multicast services.

As per section 3.1 of this document, GTP Lite will only be provided on a customer's primary circuit during normal operations. Should the primary market data gateway fail, the secondary market data gateway will become available for subscription to the GTP Lite service. The behavior of the secondary gateway, including the reset of sequence numbers will mirror that of the core Group Ticker Plant multicast services. Further information is provided in section 5 of GTP002 – Technical Guide.