

Lemonade  
Internet Draft: LZIP  
Document: [draft-ietf-lemonade-compress-00](#)

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## COMPRESSION

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### Abstract

Lemonade investigates adding mobile optimizations for the next version of the Lemonade Profile. LZIP addresses this task and provides an extension to allow compression of the exchanged text and binary literals, typically message body parts.

### Conventions used in this document

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In examples, "C:" and "S:" indicate lines sent by the client and server respectively.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [[RFC2119](#)].

An implementation is not compliant if it fails to satisfy one or more of the MUST or REQUIRED level requirements for the protocol(s) it implements. An implementation that satisfies all the MUST or REQUIRED level and all the SHOULD level requirements for a protocol is said to be "unconditionally compliant" to that protocol; one that satisfies all the MUST level requirements but not all the SHOULD level requirements is said to be "conditionally compliant." When describing the general syntax, some definitions are omitted as they are defined in [[RFC3501](#)].

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## 1.

### Introduction

LZIP provides an extension to allow compression of text and binary literals.

While it could be argued that transport could provide generic compression of the data (e.g. TLS with NULL Cipher), application level compression presents the advantage to be better tunable to the

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type of data being requested, for example, to avoid compression of already compressed data.

Compression performances depend on the actual types of e-mail that are received. They change between text bodies and different types of attachments. In general, LZIP presents a worthwhile gain over uncompressed or network compressed only approached at very little extra cost for the implementer.

Bandwidth optimization are important features required in particular to support mobile email use cases [[MEMAIL](#)][OMA-ME-RD]

## 2.

### The CAPABILITY Command

Servers which support LZIP MUST return 00LZIP00 in the response list to a capability command.

Example: A LEMONADE server that implements LZIP.

C: a001 CAPABILITY

S: \* CAPABILITY IMAP4rev1 AUTH=LOGIN IDLE LZIP

S: a001 OK CAPABILITY completed

## 3.

### LZIP Commands

The LZIP command is an extension of [[RFC3516](#)] IMAP BINARY, which introduces three new commands 00LZIP00, 00LZIP.PEEK00, 00LZIP.SIZE00 that parallel the syntax and semantics of 00BINARY00, 00BINARY.PEEK00, and 00BINARY.SIZE00 in [[RFC3516](#)]. In general, LZIP inherits all of the requirements and semantics of [[RFC3516](#)]s 00BINARY00 and 00BINARY.PEEK00,

except that the content transfer encoding being requested is understood to be the result of what would be returned from BINARY decoding, followed by the application of the DEFLATE algorithm.

Example: Zipping a body part fetch

C: A1 FETCH 123 LZIP.PEEK[1.2]

S: \* LZIP[1.2]~{1234}

S: .binary decoded and deflated data.

S: A1 OK FETCH completed

As mentioned in [RFC3516](#), LZIP.SIZE is a potentially expensive operation, as in LZIP, so clients should be aware that making successive requests for the same part may be expensive.

4.

#### LZIP Response

As the result of processing an LZIP command, two new responses, LZIP and LZIP.SIZE which parallel that responses of [RFC3516](#) are

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introduced. They are identical in syntax and semantics of the BINARY responses in [RFC3516](#) in every way, except that the resulting binary literal is understood to be in DEFLATE format.

5.

#### Formal Syntax

The following syntax specification uses the Augmented Backus-Naur Form (ABNF) notation. Elements not defined here can be found in the formal syntax of the [\[ABNF\]](#), [RFC3501](#), and [\[ABNFEXTEND\]](#).

The create ABNF grammar in [RFC3501](#) is hereby modified to the grammar defined in [\[ABNFEXTEND\]](#)

```
fetch-att      =/ "LZIP" [".PEEK"] section-binary [partial]
                / "LZIP.SIZE" section-binary
```

```
msg-att-static =/ "LZIP" section-binary SP (nstring / literal8)
                / "LZIP.SIZE" section-binary SP number
```

## Security Considerations

LZIP does not introduce additional security consideration with respect to IMAPv4Rev1.

## References

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<http://www.ietf.org/rfc/rfc3501>
- [RFC3516] Nerenberg, L. "IMAP4 Binary Content Extension", [RFC3516](#), April 2003.  
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Future Work

Should a new `compressed literal` be considered paralleling the binary literal8 syntax? For example, `%~{nz-number}`? Potential applications could be its usage in APPEND/CATENATE.

## Version History

Release 00 of [draft-maes-lemonadel-lzip](#)

Initial release published in June 2005

Release 01 of [draft-maes-lemonadel-lzip](#)

Shortened list of editors. Authors pushed to acknowledgements

[Section 2](#): Addition of exact compression algorithm references

[Section 4](#):

Addition of exact compression algorithm references

Considerations on command compression added

Correction and updates of examples

References:

Additional references on compression algorithms and IMAP4 Binary.










Release 02 of [draft-maes-lemonadel-lzip](#)

Reworked to model IMAP BINARY

Release 00 of IETF draft

Re-cast LZIP to focus on compression of text and binary literals.

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