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NTP PICS PROFORMA  
For the Network Time Protocol Version 3

Status of this Memo

This memo provides information for the Internet community. This memo does not specify an Internet standard of any kind. Distribution of this memo is unlimited.

Abstract

This RFC describes a PICS Proforma translated into an Internet acceptable form. The Original document was developed according to ISO 9646 for conformance test purposes. This document is intended for both developers and users of the NTP (Network Time Protocol). This document contains specific information and performance characteristics for the use of NTP within the context of Internet usage. It is suggested, that users wishing to use the synchronization capabilities of the Internet abide by the characteristics set within this document.

For more information please contact Dr. David Mills at Mills@udel.edu or review RFC 1305 for more information.

1. INTRODUCTION

To evaluate conformance of a particular implementation, it is necessary to have a statement of the capabilities and options that have been implemented for a given protocol. Such a statement is called a Protocol Implementation Conformance Statement (PICS).

2. SCOPE

This document provides the PICS proforma for the Network Time Protocol (NTP) in compliance with the relevant requirements, and in accordance with the relevant guidance, given in ISO/IEC 9646-2.

3. REFERENCE DOCUMENTS

ISO/IEC 9646-1 1990, Information technology - Open systems  
interconnection - Conformance testing  
methodology and framework - Part 1: General  
concepts.

ISO/IEC 9646-2 1990, Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification.

RFC 1305 Network Time Protocol (Version 3) - Specification, Implementation and Analysis - David L. Mills, University of Delaware - March 1992.

#### 4. DEFINITIONS

This document uses the following terms defined in ISO/IEC 9646-1:

- a) PICS proforma;
- b) Protocol Implementation Conformance Statement (PICS);
- c) Static conformance review.

##### 4.1 SPECIAL SYMBOLS

The additional symbols have been identified for use in this document:

- m Mandatory field/function
- o.# Optional field/function
- c# Conditional field/function
- # Refers to a note # below the table
- x Prohibited use
- n/a Not applicable
- Y[] Indicates the item is implemented
- N[] Indicates the item is not implemented

#### 5. INSTRUCTIONS FOR COMPLETION OF PICS

The supplier of a protocol implementation which is claimed to conform to NTP version 3 is required to complete a copy of the PICS proforma provided in this document and is required to provide the information necessary to identify both the supplier and the implementation.

## 6. COPYRIGHT

Copyright release for PICS proforma. Users of this RFC may freely reproduce the PICS proforma in this document so that it can be used for its intended purpose and may further publish the completed PICS.

## 7. IMPLEMENTATION IDENTIFICATION

|                                                                                                                                                  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------|--|
| SUPPLIER                                                                                                                                         |  |
| CONTACT POINT FOR<br>QUERIES ABOUT THE PICS                                                                                                      |  |
| IMPLEMENTATION NAME<br>AND VERSION                                                                                                               |  |
| OTHER INFORMATION<br>NECESSARY FOR FULL<br>IDENTIFICATION - e.g.<br>NAME AND VERSION<br>FOR MACHINES AND/OR<br>OPERATING SYSTEMS;<br>SYSTEM NAME |  |

## 8. NETWORK TIME PROTOCOL PICS PROFORMA

## 8.1 DATA FORMATS

| Item No. | NTP Requirements  | Reference | Status | Support |
|----------|-------------------|-----------|--------|---------|
| 8.1.01   | 64 bit time stamp | 3.1       | m      | Y[] N[] |

## 8.2 STATE VARIABLES AND PARAMETERS

## 8.2.1 COMMON VARIABLES

| Item No. | NTP Requirements           | Reference | Status | Support |
|----------|----------------------------|-----------|--------|---------|
| 8.2.1.01 | Peer Address               | 3.2.1     | m      | Y[] N[] |
| 8.2.1.02 | Peer Port                  | 3.2.1     | m      | Y[] N[] |
| 8.2.1.03 | Host Address               | 3.2.1     | m      | Y[] N[] |
| 8.2.1.04 | Host Port                  | 3.2.1     | m      | Y[] N[] |
| 8.2.1.05 | Leap Indicator             | 3.2.1     | m      | Y[] N[] |
| 8.2.1.06 | Mode                       | 3.2.1     | m      | Y[] N[] |
| 8.2.1.07 | Stratum                    | 3.2.1     | m      | Y[] N[] |
| 8.2.1.08 | Poll                       | 3.2.1     | m      | Y[] N[] |
| 8.2.1.09 | Precision                  | 3.2.1     | m      | Y[] N[] |
| 8.2.1.10 | Root Delay                 | 3.2.1     | m      | Y[] N[] |
| 8.2.1.11 | Root Dispersion            | 3.2.1     | m      | Y[] N[] |
| 8.2.1.12 | Reference Clock Identifier | 3.2.1     | m      | Y[] N[] |
| 8.2.1.13 | Reference Timestamp        | 3.2.1     | m      | Y[] N[] |
| 8.2.1.14 | Originate Timestamp        | 3.2.1     | m      | Y[] N[] |
| 8.2.1.15 | Receive Timestamp          | 3.2.1     | m      | Y[] N[] |
| 8.2.1.16 | Transmit Timestamp         | 3.2.1     | m      | Y[] N[] |

## 8.2.2 SYSTEM VARIABLES

| Item No. | NTP Requirements | Reference | Status | Support |
|----------|------------------|-----------|--------|---------|
| 8.2.2.01 | Local Clock      | 3.2.2     | m      | Y[] N[] |
| 8.2.2.02 | Clock Source     | 3.2.2     | m      | Y[] N[] |

## 8.2.3 PEER VARIABLES

| Item No. | NTP Requirements      | Reference | Status | Support |
|----------|-----------------------|-----------|--------|---------|
| 8.2.3.01 | Configured Bit        | 3.2.3     | m      | Y[] N[] |
| 8.2.3.02 | Update Timestamp      | 3.2.3     | m      | Y[] N[] |
| 8.2.3.03 | Reachability Register | 3.2.3     | m      | Y[] N[] |
| 8.2.3.04 | Peer Timer            | 3.2.3     | m      | Y[] N[] |

## 8.2.4 PACKET VARIABLES

| Item No. | NTP Requirements | Reference | Status | Support |
|----------|------------------|-----------|--------|---------|
| 8.2.4.01 | Version Number   | 3.2.4     | m      | Y[] N[] |

## 8.2.5 CLOCK FILTER VARIABLES

| Item No. | NTP Requirements   | Reference | Status | Support |
|----------|--------------------|-----------|--------|---------|
| 8.2.5.01 | Filter Register    | 3.2.5     | m      | Y[] N[] |
| 8.2.5.02 | Valid Data Counter | 3.2.5     | m      | Y[] N[] |
| 8.2.5.03 | Offset             | 3.2.5     | m      | Y[] N[] |
| 8.2.5.04 | Delay              | 3.2.5     | m      | Y[] N[] |
| 8.2.5.05 | Dispersion         | 3.2.5     | m      | Y[] N[] |

## 8.2.6 AUTHENTICATION VARIABLES

| Item No. | NTP Requirements          | Reference | Status | Support |
|----------|---------------------------|-----------|--------|---------|
| 8.2.6.01 | Authentication Enable Bit | 3.2.6     | c1     | Y[] N[] |
| 8.2.6.02 | Authenticated Bit         | 3.2.6     | c1     | Y[] N[] |
| 8.2.6.03 | Key Identifier            | 3.2.6     | c1     | Y[] N[] |
| 8.2.6.04 | Cryptographic Keys        | 3.2.6     | c1     | Y[] N[] |
| 8.2.6.05 | Crypto Checksum           | 3.2.6     | c1     | Y[] N[] |

c1: IF authentication is used THEN m ELSE o.

## 8.2.7 PARAMETER VALUES

| Item No. | NTP Requirements                     | Reference | Status | Support |
|----------|--------------------------------------|-----------|--------|---------|
| 8.2.7.01 | Version Number = 3                   | 3.2.7     | c1     | Y[] N[] |
| 8.2.7.02 | NTP Port = 123                       | 3.2.7     | c1     | Y[] N[] |
| 8.2.7.03 | Max Stratum = 15                     | 3.2.7     | c1     | Y[] N[] |
| 8.2.7.04 | Max Clock Age = 86,400 sec.          | 3.2.7     | c1     | Y[] N[] |
| 8.2.7.05 | Max Skew = 1 sec.                    | 3.2.7     | c1     | Y[] N[] |
| 8.2.7.06 | Max Distance = 1 sec.                | 3.2.7     | c1     | Y[] N[] |
| 8.2.7.07 | Min Polling Interval = 6(64 sec.)    | 3.2.7     | c1     | Y[] N[] |
| 8.2.7.08 | Max Polling Interval = 10(1024 sec.) | 3.2.7     | c1     | Y[] N[] |
| 8.2.7.09 | Min Select Clock = 1                 | 3.2.7     | c1     | Y[] N[] |

|          |                               |       |    |         |
|----------|-------------------------------|-------|----|---------|
| 8.2.7.10 | Max Select Clock = 10         | 3.2.7 | c1 | Y[] N[] |
| 8.2.7.11 | Min Dispersion =<br>0.01 sec. | 3.2.7 | c1 | Y[] N[] |
| 8.2.7.12 | Max Dispersion =<br>16 sec.   | 3.2.7 | c1 | Y[] N[] |
| 8.2.7.13 | Reachability Reg<br>Size = 8  | 3.2.7 | c1 | Y[] N[] |
| 8.2.7.14 | Filter Size = 8               | 3.2.7 | c1 | Y[] N[] |
| 8.2.7.15 | Filter Weight = 1/2           | 3.2.7 | c1 | Y[] N[] |
| 8.2.7.16 | Select Weight = 3/4           | 3.2.7 | c1 | Y[] N[] |

c1: IF implementation is intended for use on the Internet  
THEN m ELSE o.

## 8.2.8 MODES OF OPERATION

| Item No. | NTP Requirements  | Reference | Status | Support |
|----------|-------------------|-----------|--------|---------|
| 8.2.8.01 | Symmetric Active  | 3.3       | o.1    | Y[] N[] |
| 8.2.8.02 | Symmetric Passive | 3.3       | o.1    | Y[] N[] |
| 8.2.8.03 | Client            | 3.3       | o.1    | Y[] N[] |
| 8.2.8.04 | Server            | 3.3       | o.1    | Y[] N[] |
| 8.2.8.05 | Broadcast         | 3.3       | o.1    | Y[] N[] |

o.1:At least one mode must be implemented.

## 8.2.9 EVENT PROCESSING

### 8.2.9.1 TRANSMIT PROCEDURE

| Item No.   | NTP Requirements   | Reference | Status | Support |
|------------|--------------------|-----------|--------|---------|
| 8.2.9.1.01 | Transmit Procedure | 3.4.2     | m      | Y[] N[] |
| 8.2.9.1.02 | Authentication     | 3.4.2     | o      | Y[] N[] |

### 8.2.9.2 RECEIVE PROCEDURE

| Item No.   | NTP Requirements  | Reference | Status | Support |
|------------|-------------------|-----------|--------|---------|
| 8.2.9.2.01 | Receive Procedure | 3.4.3     | m      | Y[] N[] |
| 8.2.9.2.02 | Control Messages  | 3.4.3     | o.1    | Y[] N[] |
| 8.2.9.2.03 | Authentication    | 3.4.3     | o      | Y[] N[] |

o.1:If implemented then section 8.6 must be completed.

## 8.2.9.3 PACKET PROCEDURE

| Item No.   | NTP Requirements | Reference | Status | Support |
|------------|------------------|-----------|--------|---------|
| 8.2.9.3.01 | Packet Procedure | 3.4.4     | m      | Y[] N[] |
| 8.2.9.3.02 | Authentication   | 3.4.4     | o      | Y[] N[] |

## 8.2.9.4 CLOCK UPDATE PROCEDURE

| Item No.   | NTP Requirements | Reference | Status | Support |
|------------|------------------|-----------|--------|---------|
| 8.2.9.4.01 | Clock Update     | 3.4.5     | m      | Y[] N[] |

## 8.2.9.5 PRIMARY CLOCK PROCEDURE

| Item No.   | NTP Requirements | Reference | Status | Support |
|------------|------------------|-----------|--------|---------|
| 8.2.9.5.01 | Primary Clock    | 3.4.6     | m      | Y[] N[] |

## 8.2.9.6 INITIALIZATION PROCEDURES

| Item No.   | NTP Requirements | Reference | Status | Support |
|------------|------------------|-----------|--------|---------|
| 8.2.9.6.01 | Initialization   | 3.4.7.1   | m      | Y[] N[] |
| 8.2.9.6.02 | Authentication   | 3.4.7.1   | o      | Y[] N[] |

## 8.2.9.7 INITIALIZATION INSTANTIATION PROCEDURE

| Item No.   | NTP Requirements                | Reference | Status | Support |
|------------|---------------------------------|-----------|--------|---------|
| 8.2.9.7.01 | Initialization<br>Instantiation | 3.4.7.2   | m      | Y[] N[] |
| 8.2.9.7.02 | Authentication                  | 3.4.7.2   | o      | Y[] N[] |

## 8.2.9.8 RECEIVE INSTANTIATION PROCEDURE

| Item No.   | NTP Requirements      | Reference | Status | Support |
|------------|-----------------------|-----------|--------|---------|
| 8.2.9.8.01 | Receive Instantiation | 3.4.7.3   | m      | Y[] N[] |
| 8.2.9.8.02 | Authentication        | 3.4.7.3   | o      | Y[] N[] |

## 8.2.9.9 PRIMARY CLOCK INSTANTIATION PROCEDURE

| Item No.   | NTP Requirements    | Reference | Status | Support |
|------------|---------------------|-----------|--------|---------|
| 8.2.9.9.01 | Clock Instantiation | 3.4.7.4   | m      | Y[] N[] |

## 8.2.9.10 CLEAR PROCEDURE

| Item No.    | NTP Requirements | Reference | Status | Support |
|-------------|------------------|-----------|--------|---------|
| 8.2.9.10.01 | Clear Proc.      | 3.4.8     | m      | Y[] N[] |

## 8.2.9.11 POLL UPDATE PROCEDURE

| Item No.    | NTP Requirements | Reference | Status | Support |
|-------------|------------------|-----------|--------|---------|
| 8.2.9.11.01 | Poll Update      | 3.4.9     | m      | Y[] N[] |

## 8.2.9.12 SYNCHRONIZATION DISTANCE PROCEDURE

| Item No.    | NTP Requirements | Reference | Status | Support |
|-------------|------------------|-----------|--------|---------|
| 8.2.9.12.01 | Distance Proc.   | 3.5       | m      | Y[] N[] |

## 8.3 FILTERING AND SELECTION ALGORITHMS

## 8.3.1 CLOCK FILTER PROCEDURE

| Item No. | NTP Requirements | Reference | Status | Support |
|----------|------------------|-----------|--------|---------|
| 8.3.1.01 | Clock Filter     | 4.1       | o      | Y[] N[] |

## 8.3.2 CLOCK SELECTION PROCEDURE

| Item No. | NTP Requirements          | Reference | Status | Support |
|----------|---------------------------|-----------|--------|---------|
| 8.3.2.01 | Clock Selection Procedure | 4.2       | o      | Y[] N[] |
| 8.3.2.02 | Intersection Algorithm    | 4.2.1     | c1     | Y[] N[] |
| 8.3.2.03 | Clustering Algorithm      | 4.2.2     | c1     | Y[] N[] |

c1: IF Clock Selection Procedure implemented THEN m ELSE o.

## 8.4 LOCAL CLOCKS

| Item No. | NTP Requirements | Reference | Status | Support |
|----------|------------------|-----------|--------|---------|
| 8.4.01   | Logical Clock    | 5         | m      | Y[] N[] |

## 8.4.1 FUZZBALL LOCAL CLOCK IMPLEMENTATIONS

## 8.4.1.1 CRYSTAL OSCILLATOR BASED IMPLEMENTATION PARAMETER VALUES

| Item No.   | NTP Requirements                | Reference | Status | Support |
|------------|---------------------------------|-----------|--------|---------|
| =====      |                                 |           |        |         |
| 8.4.1.1.01 | Adjustment Interval =<br>4 sec. | 5.1       | c1     | Y[] N[] |
| 8.4.1.1.02 | PPS Timeout = 60 sec.           | 5.1       | c1     | Y[] N[] |
| 8.4.1.1.02 | Step Timeout =<br>900 sec.      | 5.1       | c1     | Y[] N[] |
| 8.4.1.1.02 | Maximum Aperture =<br>q128 ms   | 5.1       | c1     | Y[] N[] |
| 8.4.1.1.03 | Frequency Weight = 16           | 5.1       | c1     | Y[] N[] |
| 8.4.1.1.04 | Phase Weight = 8                | 5.1       | c1     | Y[] N[] |
| 8.4.1.1.05 | Compliance Weight = 13          | 5.1       | c1     | Y[] N[] |
| 8.4.1.1.06 | Compliance Maximum = 4          | 5.1       | c1     | Y[] N[] |
| 8.4.1.1.07 | Compliance<br>Multiplier = 4    | 5.1       | c1     | Y[] N[] |

c1:IF implementing a fuzzball using a crystal oscillator  
based local clock THEN m ELSE o.

## 8.4.1.2 MAIN SYSTEM CLOCK IMPLEMENTATION PARAMETER VALUES

| Item No.   | NTP Requirements                | Reference | Status | Support |
|------------|---------------------------------|-----------|--------|---------|
| =====      |                                 |           |        |         |
| 8.4.1.2.01 | Adjustment<br>Interval = 1 sec. | 5.1       | c1     | Y[] N[] |
| 8.4.1.2.02 | PPS Timeout = 60 sec.           | 5.1       | c1     | Y[] N[] |
| 8.4.1.2.02 | Step Timeout =<br>900 sec.      | 5.1       | c1     | Y[] N[] |
| 8.4.1.2.02 | Maximum Aperture =<br>q512 ms   | 5.1       | c1     | Y[] N[] |
| 8.4.1.2.03 | Frequency Weight = 16           | 5.1       | c1     | Y[] N[] |
| 8.4.1.2.04 | Phase Weight = 9                | 5.1       | c1     | Y[] N[] |
| 8.4.1.2.05 | Compliance Weight = 13          | 5.1       | c1     | Y[] N[] |
| 8.4.1.2.06 | Compliance Maximum = 4          | 5.1       | c1     | Y[] N[] |
| 8.4.1.2.07 | Compliance<br>Multiplier = 4    | 5.1       | c1     | Y[] N[] |

c1:IF implementing a fuzzball using a main system clock  
THEN m ELSE o.

## 8.4.2 PHASE ADJUSTMENT

| Item No. | NTP Requirements         | Reference | Status | Support |
|----------|--------------------------|-----------|--------|---------|
| =====    |                          |           |        |         |
| 8.4.2.01 | Gradual Phase Adjustment | 5.2       | m      | Y[] N[] |
| 8.4.2.02 | Step Phase Adjustment    | 5.3       | m      | Y[] N[] |

## 8.5 NTP DATA FORMAT

| Item No. | NTP Requirements                                                                  | Reference | Status | Support |
|----------|-----------------------------------------------------------------------------------|-----------|--------|---------|
| =====    |                                                                                   |           |        |         |
| 8.5.01   | Leap Indicator<br>is a 2 bit code                                                 | App. A    | m      | Y[] N[] |
| 8.5.02   | Version Number<br>is a 3 bit integer                                              | App. A    | m      | Y[] N[] |
| 8.5.03   | Mode<br>is a 3 bit integer                                                        | App. A    | m      | Y[] N[] |
| 8.5.04   | Stratum is an 8<br>bit integer                                                    | App. A    | m      | Y[] N[] |
| 8.5.05   | Poll is an 8 bit<br>signed integer                                                | App. A    | m      | Y[] N[] |
| 8.5.06   | Precision is an<br>8 bit signed integer                                           | App. A    | m      | Y[] N[] |
| 8.5.07   | Root Delay is a 32 bit signed<br>fixed-point number                               | App. A    | m      | Y[] N[] |
| 8.5.08   | Root Dispersion is a 32 bit<br>fixed-point number                                 | App. A    | m      | Y[] N[] |
| 8.5.09   | Reference Identifier is a 4<br>octet, left justified, zero<br>padded ASCII string | App. A    | m      | Y[] N[] |
| 8.5.10   | Reference Timestamp is a 64<br>bit timestamp format                               | App. A    | m      | Y[] N[] |
| 8.5.11   | Originate Timestamp is a 64<br>bit timestamp format                               | App. A    | m      | Y[] N[] |
| 8.5.12   | Receive Timestamp is a 64<br>bit timestamp format                                 | App. A    | m      | Y[] N[] |
| 8.5.13   | Transmit Timestamp is a 64<br>bit timestamp format                                | App. A    | m      | Y[] N[] |
| 8.5.14   | Authenticator 96 bits                                                             | App. A    | o      | Y[] N[] |

## 8.6 NTP Control Messages

## 8.6.1 NTP Control Message Header Format

| Item No. | NTP Requirements                      | Reference | Status | Support |
|----------|---------------------------------------|-----------|--------|---------|
| =====    |                                       |           |        |         |
| 8.6.1.01 | Leap Indicator<br>is a 2 bit code     | App. B.1  | c1     | Y[] N[] |
| 8.6.1.02 | Version Number<br>is a 3 bit integer  | App. B.1  | c1     | Y[] N[] |
| 8.6.1.03 | Mode is a 3 bit<br>integer            | App. B.1  | c1     | Y[] N[] |
| 8.6.1.04 | Response bit is<br>a 1 Bit field      | App. B.1  | c1     | Y[] N[] |
| 8.6.1.05 | Error bit is a 1<br>bit field         | App. B.1  | c1     | Y[] N[] |
| 8.6.1.06 | More bit is a 1<br>bit field          | App. B.1  | c1     | Y[] N[] |
| =====    |                                       |           |        |         |
| Item No. | NTP Requirements                      | Reference | Status | Support |
| =====    |                                       |           |        |         |
| 8.6.1.07 | Operation Code<br>is a 5 bit integer  | App. B.1  | c1     | Y[] N[] |
| 8.6.1.08 | Sequence is a 16<br>bit integer       | App. B.1  | c1     | Y[] N[] |
| 8.6.1.09 | Status is a 16<br>bit code            | App. B.1  | c1     | Y[] N[] |
| 8.6.1.10 | Association ID<br>is a 16 bit integer | App. B.1  | c1     | Y[] N[] |
| 8.6.1.11 | Offset is a 16<br>bit integer         | App. B.1  | c1     | Y[] N[] |
| 8.6.1.12 | Count is a 16<br>bit integer          | App. B.1  | c1     | Y[] N[] |
| 8.6.1.13 | Data is a<br>maximum of 468 octets    | App. B.1  | c1     | Y[] N[] |
| 8.6.1.14 | Authenticator<br>96 bits              | App. B.1  | c1     | Y[] N[] |

c1: IF control messages are used THEN m ELSE o.

## 8.6.1.1 NTP Control Message Required Values

| Item No.   | NTP Requirements    | Reference | Status | Support |
|------------|---------------------|-----------|--------|---------|
| 8.6.1.1.01 | Leap Indicator = 00 | App. B.1  | c1     | Y[] N[] |
| 8.6.1.1.02 | Version Number = 3  | App. B.1  | c1     | Y[] N[] |
| 8.6.1.1.03 | Mode = 6            | App. B.1  | c1     | Y[] N[] |

c1:IF control messages are used THEN m ELSE o.

## 8.6.2 System Words

## 8.6.2.1 System Status Word

| Item No.   | NTP Requirements                           | Reference | Status | Support |
|------------|--------------------------------------------|-----------|--------|---------|
| 8.6.2.1.01 | Leap Indicator<br>is a 2 bit code          | App.B.2.1 | c1     | Y[] N[] |
| 8.6.2.1.02 | Clock Source is<br>a 6 bit integer         | App.B.2.1 | c1     | Y[] N[] |
| 8.6.2.1.03 | System Event Counter<br>is a 4 bit integer | App.B.2.1 | c1     | Y[] N[] |
| 8.6.2.1.04 | System Event Code<br>is a 4 bit integer    | App.B.2.1 | c1     | Y[] N[] |

c1:IF control messages are used THEN m ELSE o.

## 8.6.2.2 Peer Status Word

| Item No.   | NTP Requirements                         | Reference | Status | Support |
|------------|------------------------------------------|-----------|--------|---------|
| 8.6.2.2.01 | Peer Status is a<br>5 bit code           | App.B.2.2 | c1     | Y[] N[] |
| 8.6.2.2.02 | Peer Selection<br>is a 3 bitinteger      | App.B.2.2 | c1     | Y[] N[] |
| 8.6.2.2.03 | Peer Event Counter<br>is a 4 bit integer | App.B.2.2 | c1     | Y[] N[] |
| 8.6.2.2.04 | Peer Event Code<br>is a 4 bit integer    | App.B.2.2 | c1     | Y[] N[] |

c1:IF control messages are used THEN m ELSE o.

## 8.6.2.3 Clock Status Word

| Item No.   | NTP Requirements                        | Reference | Status | Support |
|------------|-----------------------------------------|-----------|--------|---------|
| =====      |                                         |           |        |         |
| 8.6.2.3.01 | Clock Status is<br>an 8 bit integer     | App.B.2.3 | c1     | Y[] N[] |
| 8.6.2.3.02 | Clock Event Code<br>is an 8 bit integer | App.B.2.3 | c1     | Y[] N[] |

c1:IF control messages are used THEN m ELSE o.

## 8.6.2.4 Error Status Word

| Item No.   | NTP Requirements                    | Reference | Status | Support |
|------------|-------------------------------------|-----------|--------|---------|
| =====      |                                     |           |        |         |
| 8.6.2.4.01 | Error Status is<br>an 8 bit integer | App.B.2.4 | c1     | Y[] N[] |

c1:IF control messages are used THEN m ELSE o.

## 9. Security Considerations

Security issues are not discussed in this memo

## 10. References

- [1] Mills. D., "Network Time Protocol Version 3 - Specification, Implementation and Analysis", RFC 1305, UDEL, March 1992.

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