

TN3270E Working Group  
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Base Definitions of Managed Objects for  
TN3270E Using SMIV2  
<[draft-ietf-tn3270e-tn3270-mib-05.txt](#)>

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### Abstract

This memo defines a Management Information Base (MIB) for configuring and managing TN3270E servers. TN3270E, defined by [RFC 1647](#) (reference [14]), refers to the enhancements made to the Telnet 3270 (TN3270) terminal emulation practices. Refer to: [RFC 1041](#), reference [4]; RFC 854, reference [2]; and [RFC 860](#), reference [3] for a sample of what is meant by TN3270 practices.

The MIB defined by this memo provides generic support for both host and gateway TN3270E server implementations. A host TN3270E server refers to an implementation where the TN3270E server is collocated with the

Systems Network Architecture (SNA) System Services Control Point (SSCP) for the dependent Secondary Logical Units (SLUs) that the server makes available to its clients for connecting into a SNA network.

A gateway TN3270E server resides on an SNA node other than an SSCP, either an SNA type 2.0 node or an APPN node acting in the role of a

Internet Draft

TN3270E MIB

January 1998

Dependent LU Requester (DLUR). Host and gateway TN3270E server implementations typically differ greatly as to their internal implementation and system definition (SYSDEF) requirements.

It is the intent that the MIB defined herein be extended by subsequent memos, to provide non-generic configuration support and to enable TN3270E response time collection. The specification of this MIB uses the Structure of Management Information (SMI) for Version 2 of the Simple Network Management Protocol Version (refer to [RFC 1902](#), reference [[1](#)]).

## Table of Contents

<a href="#">1.0</a>	Introduction . . . . .	<a href="#">2</a>
<a href="#">2.0</a>	The SNMPv2 Network Management Framework . . . . .	<a href="#">3</a>
<a href="#">3.0</a>	Structure of the MIB . . . . .	<a href="#">3</a>
<a href="#">3.1</a>	TN3270E Server Control . . . . .	<a href="#">4</a>
<a href="#">3.1.1</a>	tn3270eSrvrConfTable . . . . .	<a href="#">5</a>
<a href="#">3.1.2</a>	tn3270eSrvrPortTable . . . . .	<a href="#">5</a>
<a href="#">3.1.3</a>	tn3270eSrvrStatsTable . . . . .	<a href="#">6</a>
<a href="#">3.2</a>	TN3270E Server Resource Configuration . . . . .	<a href="#">6</a>
<a href="#">3.3</a>	Resource Name / Client Address Mappings . . . . .	<a href="#">6</a>
<a href="#">3.3.1</a>	tn3270eSnaMapTable . . . . .	<a href="#">6</a>
<a href="#">3.3.2</a>	tn3270eResMapTable . . . . .	<a href="#">7</a>
<a href="#">3.3.3</a>	tn3270eTcpConnTable . . . . .	<a href="#">7</a>
<a href="#">3.4</a>	Advisory Spin Lock Usage . . . . .	<a href="#">8</a>
<a href="#">3.5</a>	IANA Considerations . . . . .	<a href="#">8</a>
<a href="#">4.0</a>	Definitions . . . . .	<a href="#">8</a>
<a href="#">5.0</a>	Security Considerations . . . . .	<a href="#">41</a>
<a href="#">6.0</a>	Intellectual Property . . . . .	<a href="#">42</a>
<a href="#">7.0</a>	Acknowledgments . . . . .	<a href="#">42</a>

[8.0](#) References . . . . . [42](#)  
[9.0](#) Authors' Addresses . . . . . [43](#)  
[10.0](#) Full Copyright Statement . . . . . [44](#)

[1.0](#) Introduction

This document is a product of the TN3270E Working Group. Its purpose is to define a MIB module for support by a TCP/IP implementation for configuration and management of TN3270E servers.

Internet Draft TN3270E MIB January 1998

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 [RFC 2119](#), reference [\[13\]](#).

[2.0](#) The SNMPv2 Network Management Framework

The SNMPv2 Network Management Framework consists of seven major components. They are:

- o [RFC 1902](#) [\[1\]](#) which defines the SMI, the mechanisms used for describing and naming objects for the purpose of management.
- o [RFC 1903](#) [\[6\]](#) defines textual conventions for SNMPv2.
- o [RFC 1904](#) [\[8\]](#) defines conformance statements for SNMPv2.
- o [RFC 1905](#) [\[7\]](#) defines transport mappings for SNMPv2.
- o [RFC 1906](#) [\[5\]](#) defines the protocol operations used for network access to managed objects.
- o [RFC 1907](#) [\[9\]](#) defines the Management Information Base for SNMPv2.
- o [RFC 1908](#) [\[16\]](#) specifies coexistence between SNMP and SNMPv2.

The Framework permits new objects to be defined for the purpose of

experimentation and evaluation.

This memo specifies a MIB module that is compliant to the SNMPv2 SMI. A semantically identical MIB conforming to the SNMPv1 SMI can be produced through the appropriate translation.

### [3.0](#) Structure of the MIB

The TN3270E-MIB is split into the following components:

- o TN3270E Server Control
- o TN3270E Server Resource Configuration
- o Resource/Client Address Mappings

There are two additional sections to address:

- o Advisory Spin Lock Usage
- o IANA Considerations

The TN3270E-MIB is defined primarily for TN3270E servers. This memo does not explicitly address use of the MIB by TN3270 servers that do not support the TN3270E protocol. Even though a significant number of the objects in the MIB do apply in the TN3270-only case, the case was not addressed, since it is unlikely that a TN3270-only server would implement this MIB.

The SYSAPPL-MIB, reference [[12](#)], contains the Utf8String textual convention (TC) that the TN3270E-MIB imports. This TC, which is used for some MIB objects containing textual information, enables internationalization of text strings, whereas the DisplayString TC does not.

It is important to note that implementation of the SYSAPPL-MIB is not actually a prerequisite for implementing the TN3270E-MIB. On the other hand, implementation of the TN3270E-MIB does not preclude implementing the SYSAPPL-MIB as well. When both MIBs are implemented, the primary index into most of the TN3270E-MIB tables, tn3270eSrvrConfIndex, SHOULD equal one of the SYSAPPL-MIB's sysAppElmtRunIndex values. In this case the entry in the sysAppElmtRunTable provides additional information on a TN3270E server.

The SNMP-FRAMEWORK-MIB, reference [[15](#)], contains the SnpAdminString TC

that the TN3270E-MIB imports. Like the Utf8String TC, this TC also enables internationalization of text strings; in addition, it provides some guidelines on the length and content of the strings.

The MIB defined by this memo handles both IPv4 and IPv6 addressing. Two textual conventions, Tn3270eAddrType and Tn3270eTAddress, are defined for this purpose. Tn3270eTAddress is essentially equivalent to the TAddress TC, defined by [RFC 1903](#). The difference between the two is that Tn3270eTAddress allows a zero-length octet string, while TAddress doesn't. It is important that Tn3270eTAddress allow for the absence of an address, because some objects with this syntax are used as table indexes, and have special meanings when they contain zero-length strings.

The Tn3270eAddrType textual convention is used rather than the TDomain TC (defined by [RFC 1903](#)) for identifying the contents of a tn3270eTAddress object. TDomain uses an OID to characterize the contents of an associated TAddress object. Tn3270eAddrType was chosen over TDomain because, with a SYNTAX of Unsigned32 (enumeration type), it is much simpler to use as a component in an instance identifier.

### [3.1](#) TN3270E Server Control

This group of objects provides for TN3270E server configuration and control. It consists of three tables:

- o tn3270eSrvrConfTable
- o tn3270eSrvrPortTable
- o tn3270eSrvrStatsTable

The tn3270eSrvrConfTable is the primary table within the entire TN3270E-MIB. As [section 3.1.1](#) indicates, each TN3270E server is represented by an entry in this table, indexed by tn3270eSrvrConfIndex. Most of the other tables defined by the TN3270E-MIB have tn3270eSrvrConfIndex as their primary index. Entries in these tables MUST NOT exist for a TN3270E server when it does not have a tn3270eSrvrConfigEntry.

#### [3.1.1](#) tn3270eSrvrConfTable

The tn3270eSrvrConfTable contains a set of objects primarily used for configuring and managing TN3270E servers. As with most of the other tables in the TN3270E-MIB, this table is indexed by an unsigned integer,

tn3270eSrvrConfIndex. This primary index element enables support of multiple TN3270E servers by a single SNMP agent. Within the set of MIB objects returned by one SNMP agent, tn3270eSrvrConfIndex values MUST be unique, and need not be contiguous; otherwise these values are implementation-dependent.

An earlier version of this memo had used the local IP address associated with a TN3270E server, along with tn3270eSrvrConfIndex, as the primary indexes into most of its tables. Use of a local IP address was thought to enable use of these tables by management applications. This approach was dropped, since it introduced another level of complexity into MIB table indexing for little actual benefit.

The tn3270eSrvrConfInactivityTimer object defines the inactivity period for TN3270 and TN3270E sessions. The tn3270eSrvrConfSessionTermState object defines how a session SHOULD be terminated. The three objects:

- o tn3270eSrvrConfActivityCheck
- o tn3270eSrvrConfActivityTimeout
- o tn3270eSrvrConfActivityInterval

define the parameters for performing the "Telnet Timing Mark Option" as defined by [RFC 860](#) [3]. The object tn3270eSrvrConfActivityCheck allows a Management Station to select either a NOP command or a TIMEMARK command. Sending a NOP command results in less overhead than a TIMEMARK command, since a client doesn't send a reply.

The objects tn3270eSrvrConfAdminStatus and tn3270eSrvrConfOperStatus enable remote starting and stopping of a TN3270E server. tn3270eSrvrConfFunctionsSupported indicates which of the TN3270 and TN3270E options a server supports. The object tn3270eSrvrConfSessionTermState defines as a TN3270E server-wide option what SHOULD occur when the SNA portion of a TN3270 or TN3270E session terminates with respect to the associated TCP connection. The object tn3270eSrvrConfSrvrType indicates whether the TN3270E server represented by a tn3270eSrvrConfEntry is a host or a gateway server. The object tn3270eSrvrConfContact provides a scratch pad area for a TN3270E server administrator to store information for later retrieval. The object tn3270eSrvrConfRowStatus provides the capability to perform row creation and deletion operations on this table.

### [3.1.2](#) tn3270eSrvrPortTable

The tn3270eSrvrPortTable represents the local TCP ports associated with a TN3270E server. This information is important because some TN3270E server implementations support multiple local ports. A tn3270eSrvrPortEntry is indexed by:

- o tn3270eSrvrConfIndex
- o tn3270eSrvrConfPort

Internet Draft

TN3270E MIB

January 1998

- o tn3270eSrvrConfPortAddrType
- o tn3270eSrvrConfPortAddress

Certain TN3270E server implementations restrict a local TCP port to a particular local IP address, instead of allowing connections for any local IP address to occur via the port. tn3270eSrvrConfPortAddrType and tn3270eSrvrConfPortAddress allow this restriction to be represented in the MIB. A TN3270E server that doesn't restrict connections over a port to a local IP Address SHOULD use the value unknown(0) for tn3270eSrvrConfPortAddrType, and a zero-length octet string for tn3270eSrvrConfPortAddress.

### [3.1.3](#) tn3270eSrvrStatsTable

The tn3270eSrvrStatsTable defines a series of objects that provide general usage statistics for a TN3270E server.

## [3.2](#) TN3270E Server Resource Configuration

The following three tables provide for configuration of resources at a TN3270E server:

- o tn3270eClientGroupTable
- o tn3270eResPoolTable
- o tn3270eClientResMapTable

tn3270eClientGroupTable and tn3270eResPoolTable enable implementations to define groupings of both client addresses and resource pools for mapping client addresses to resources. The tn3270eClientResMapTable provides a mapping from a client group to a resource pool.

## [3.3](#) Resource Name / Client Address Mappings

The TN3270E-MIB contains three tables for mapping resource names to client addresses, and client addresses to resource names:

- o tn3270eSnaMapTable
- o tn3270eResMapTable
- o tn3270eTcpConnTable

### [3.3.1](#) tn3270eSnaMapTable

The tn3270eSnaMapTable is a read-only table that maps a secondary LU's SNA network name to the name by which it is known locally at the TN3270E

server. For correlation with data from the SNA network, the name of the associated primary LU also appears in a tn3270eSnaMapEntry. An entry in this table is created when the Activate LU (ACTLU) request carrying the SNA network name of the SLU is received from the SSCP. The entry is deleted when the SLU is deactivated.

A TN3270E server provides a client with access to an SNA application by associating a TCP connection from the client with an SNA secondary LU (SLU) at the server. This SLU in turn has an SNA session with a primary LU (PLU) running on an SNA host. This PLU represents the application with which the client is communicating. The TN3270E-MIB includes two

tables for mapping back and forth among the SNA name identifying the PLU, the SNA name identifying the SLU, and the TCP connection with the client.

In order to understand how these name mappings work, it is necessary to understand a subtlety involving the names of the SLUs at the TN3270E server: these names are often different from the names by which the SLUs are known in the rest of the SNA network. In the TN3270E-MIB, these two types of SLU names are termed "local names" and "SSCP-supplied names"; the latter term indicates that the name by which the SLU is known in the SNA network comes to the TN3270E server from the SNA System Services Control Point.

SSCPs don't always send SLU names down to the secondary LUs; in some cases this capability must be turned on. In the case of SLUs served by a Dependent LU Requester (DLUR), the capability is always turned on. For those associated with an SNA type 2.0 node (or with a boundary function-attached type 2.1 node), however, inclusion of SLU names on ACTLU must be enabled explicitly at the SSCP via local configuration.

### [3.3.2](#) tn3270eResMapTable

The tn3270eResMapTable is a read-only table that maps a resource name to a client's address. An entry in this table is created when a TCP connection is received by a TN3270E server and mapped to a resource. The entry is deleted when the resource-to-address association is no longer valid.

### [3.3.3](#) tn3270eTcpConnTable

The TCP Connection Table is defined by [RFC 2012](#) (Refer to reference [10], TCP-MIB Definitions). It contains the following objects:

- o tcpConnState (INTEGER)
- o tcpConnLocalAddress (IpAddress)
- o tcpConnLocalPort (INTEGER)
- o tcpConnRemAddress (IpAddress)
- o tcpConnRemPort (INTEGER)

It is indexed by: tcpConnLocalAddress, tcpConnLocalPort, tcpConnRemAddress, and tcpConnRemPort.

The tn3270eTcpConnTable contains objects for keeping a list of the current set of TN3270 and TN3270E sessions at a TN3270E server. The relationship between the tcpConnTable and the Tn3270eTcpConnTable is not one-to-one, since the tn3270eTcpConnTable contains information pertaining only to TN3270(E) sessions.

The tn3270eTcpConnTable has a different indexing structure from that of the tcpConnTable. Instead of using IpAddress objects, Tn3270eTAddress and Tn3270eAddrType object pairs are used to specify client addresses (both local and remote). This enables support of IPv6 addresses. In addition, the remote address pair precedes the local address pair in the index clause, in order to enable a GET-NEXT operation using only the remote address pair.

### [3.4](#) Advisory Spin Lock Usage

Within the TN3270E-MIB, the tn3270eConfSpinLock object provides an advisory lock that an implementation MAY use to let cooperating TN3270E-MIB applications coordinate their use of the tn3270eSrvrConfTable, the tn3270eSrvrPortTable, the tn3270eClientGroupTable, the tn3270eResPoolTable, and the tn3270eClientResMapTable. When an application seeks to create a new entry or alter an existing entry in any of the above mentioned tables, an implementation MAY require the application to use the tn3270eConfSpinLock to serialize its changes or additions relative to those initiated by other applications. Since this is an advisory lock, an implementation is not required to support it.

### [3.5](#) IANA Considerations

The tn3270eSrvrFunctionsSupported, tn3270eTcpConnFunctions, tn3270eTcpConnClientIdFormat, and tn3270eTcpConnLogInfo objects use textual conventions imported from the IANATn3270eTC-MIB. The purpose of defining these textual conventions in a separate MIB module is to allow additional values to be defined without having to issue a new version of this document. The Internet Assigned Number Authority (IANA) is

responsible for the assignment of all Internet numbers, including various SNMP-related numbers; it will administer the values associated with these textual conventions.

The rules for additions or changes to the IANATn3270eTC-MIB are outlined in the DESCRIPTION clause associated with its MODULE-IDENTITY statement.

The current version of the IANATn3270eTC-MIB can be accessed from the IANA homepage at: "<http://www.iana.org/iana/>".

#### [4.0](#) Definitions

```
TN3270E-MIB DEFINITIONS ::= BEGIN
```

```
IMPORTS
```

```
    MODULE-IDENTITY, OBJECT-TYPE, Unsigned32,
    TimeTicks, IPAddress,
    Counter32, Gauge32, Counter64
        FROM SNMPv2-SMI
    TEXTUAL-CONVENTION, RowStatus, TestAndIncr
        FROM SNMPv2-TC
    MODULE-COMPLIANCE, OBJECT-GROUP
        FROM SNMPv2-CONF
    snanauMIB
        FROM SNA-NAU-MIB
    Utf8String
        FROM SYSAPPL-MIB
    SnmpAdminString
        FROM SNMP-FRAMEWORK-MIB
    IANATn3270eClientType, IANATn3270eLogData,
    IANATn3270Functions
        FROM IANATn3270eTC-MIB;
```

TN3270E Working Group

Expires July 1998

[Page 8]

---

Internet Draft

TN3270E MIB

January 1998

```
tn3270eMIB MODULE-IDENTITY
```

```
    LAST-UPDATED "9802020000Z" -- February 2, 1998
```

```
    ORGANIZATION "TN3270E Working Group"
```

```
    CONTACT-INFO
```

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DESCRIPTION

"This module defines a portion of the management information base (MIB) for managing TN3270E servers"  
::= { snanauMIB 8 }

-- Textual Conventions

SnaResourceName ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The textual convention for defining an SNA resource name. A fully qualified SNA resource name, consisting of a 1 to 8 character network identifier (NetId), a period ('.'), and a 1 to 8 character resource name (ResName).

The NetId and ResName are constructed from the uppercase letter 'A' - 'Z' and the numerics '0' - '9', all encoded in ASCII, with the restriction that the first character of each must be a letter. Trailing blanks are not allowed.

Earlier versions of SNA permitted three additional characters in NetIds and ResNames: '#', '@', and '\$'. While this use of these characters has been retired, a Management Station should still accept them for backward compatibility.

Note: This Textual Convention is not subject to internationalization, and does not use the character encodings used by the Utf8String Textual Convention."

SYNTAX OCTET STRING (SIZE(0..17))

Tn3270eAddrType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The textual convention for defining the type of a

client address. The enumeration value unknown(0) is usually used to indicate that no actual address is present."

```
SYNTAX      INTEGER {
                unknown(0),
                ipv4(1),
                ipv6(2)
            }
```

Tn3270ResourceType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The type of resource defined by a resource pool. Refer to tn3270eResPoolTable."

```
SYNTAX      INTEGER {
                other(0),
                lu(1),
                printer(2)
            }
```

Tn3270eTAddress ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Denotes a client address. The type of client address is determined by use of the Tn3270eAddrType textual convention. The length in octets of a Tn3270eTAddress object is:

Tn3270eAddrType	Address Length
unknown(0)	not specified or unknown; the actual length of the Tn3270eTAddress octet string indicates if an address is present
ipv4(1)	4 OCTETS
ipv6(2)	16 OCTETS

This textual convention is similar to the TAddress TC defined by [RFC1903](#) except that it allows a zero-length octet string and is not a full transport layer address."

```
SYNTAX      OCTET STRING (SIZE (0..255))
```

Tn3270DeviceTypes ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This textual convention defines the list of device types that can be set, as defined by [RFC 1647](#)."

```
SYNTAX      INTEGER { -- terminals
                unknown(0),
```

```
ibm3278d2(1),    -- (24 row x 80 col display)
ibm3278d2E(2),  -- (24 row x 80 col display)
ibm3278d3(3),   -- (32 row x 80 col display)
ibm3278d3E(4),  -- (32 row x 80 col display)
```

Internet Draft

TN3270E MIB

January 1998

```
ibm3278d4(5),    -- (43 row x 80 col display)
ibm3278d4E(6),  -- (43 row x 80 col display)
ibm3278d5(7),   -- (27 row x 132 col display)
ibm3278d5E(8),  -- (27 row x 132 col display)
ibmDynamic(9),  -- (no pre-defined display size)
ibm3287d1(10)   -- printers
```

}

Tn3270eTraceData ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"An octet string representing trace data from the Telnet half of a TN3270E session, from the SNA half, or from both. The octet string contains a sequence of trace elements, with order in the octet string representing order in time of the trace elements, from earliest to latest.

Each trace element has the following form:

```
+-----+-----+-----+
!length!type!data          !
+-----+-----+-----+
```

where:

length = one-octet length of the data portion of the trace element, not including the length and type octets

type = one-octet code point characterizing the data; defined values are:

X'01' outbound telnet PDU to the client  
X'02' inbound telnet PDU from the client  
X'03' outbound SNA data to the host  
X'04' inbound SNA data from the host

data = initial part of a PDU.

It is left to implementations to determine how much of each PDU to return in a trace element.

The zero-length string indicates that no trace data is available."

SYNTAX OCTET STRING (SIZE (0..256))

-- Top-level structure of the MIB

```
tn3270eNotifications OBJECT IDENTIFIER ::= { tn3270eMIB 0 }
tn3270eObjects        OBJECT IDENTIFIER ::= { tn3270eMIB 1 }
tn3270eConformance   OBJECT IDENTIFIER ::= { tn3270eMIB 3 }
```

-- MIB Objects

TN3270E Working Group

Expires July 1998

[Page 11]

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Internet Draft

TN3270E MIB

January 1998

tn3270eSrvrConfTable OBJECT-TYPE

SYNTAX SEQUENCE OF Tn3270eSrvrConfEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table defines the configuration elements for TN3270E servers. The number of entries in this table is expected to vary depending on the location of the table. A particular TN3270E server is expected to have a single entry. Modeling of the configuration elements as a table allows multiple TN3270E servers to be serviced by the same SNMP agent."

::= { tn3270eObjects 1 }

tn3270eSrvrConfEntry OBJECT-TYPE

SYNTAX Tn3270eSrvrConfEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Definition of the configuration elements for a single TN3270E server."

INDEX { tn3270eSrvrConfIndex }

::= { tn3270eSrvrConfTable 1 }

Tn3270eSrvrConfEntry ::= SEQUENCE {

tn3270eSrvrConfIndex Unsigned32,

tn3270eSrvrConfInactivityTimeout Unsigned32,

tn3270eSrvrConfActivityCheck INTEGER,

tn3270eSrvrConfActivityTimeout Unsigned32,

```

tn3270eSrvrConfActivityInterval Unsigned32,
tn3270eSrvrFunctionsSupported IANATn3270Functions,
tn3270eSrvrConfAdminStatus INTEGER,
tn3270eSrvrConfOperStatus INTEGER,
tn3270eSrvrConfSessionTermState INTEGER,
tn3270eSrvrConfSrvrType INTEGER,
tn3270eSrvrConfContact SnmpAdminString,
tn3270eSrvrConfRowStatus RowStatus
}

```

```

tn3270eSrvrConfIndex OBJECT-TYPE
    SYNTAX      Unsigned32 (1..4294967295)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Identifier for a single TN3270E server.

```

Assignment of tn3270eSrvrConfIndex values is left entirely up to an implementation. The values need not be contiguous."

```
 ::= { tn3270eSrvrConfEntry 1 }
```

```

tn3270eSrvrConfInactivityTimeout OBJECT-TYPE
    SYNTAX      Unsigned32 (0..99999999)
    UNITS       "seconds"
    MAX-ACCESS  read-create

```

```

STATUS      current

```

```

DESCRIPTION

```

"The inactivity time-out specified in seconds. When a connection has been inactive for the number of seconds specified by this object it is closed. The default of 0 means no inactivity time-out is in effect."

```

DEFVAL { 0 }

```

```
 ::= { tn3270eSrvrConfEntry 2 }
```

```

tn3270eSrvrConfActivityCheck OBJECT-TYPE

```

```

    SYNTAX      INTEGER {
                                noCheck(0),
                                timeMark(1),
                                nop(2)
                            }

```

```

    MAX-ACCESS  read-create

```

```

    STATUS      current

```

```

    DESCRIPTION

```

```
"This object is intended to enable either timemark or
nop processing."
DEFVAL { noCheck }
::= { tn3270eSrvrConfEntry 3 }
```

tn3270eSrvrConfActivityTimeout OBJECT-TYPE

```
SYNTAX      Unsigned32 (1..99999999)
UNITS "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "The TIMEMARK or NOP processing time-out specified in
    seconds. Note that a value of 0 is not allowed for
    this object since the function that uses this object
    relies on tn3270eSrvrConfActivityCheck for function
    enablement."
DEFVAL { 600 } -- 10 minutes
::= { tn3270eSrvrConfEntry 4 }
```

tn3270eSrvrConfActivityInterval OBJECT-TYPE

```
SYNTAX      Unsigned32 (1..99999999)
UNITS "seconds"
MAX-ACCESS  read-create
STATUS      current
DESCRIPTION
    "The scan interval to be used by a TN3270E server.
    TIMEMARK or NOP processing scans the Telnet sessions
    on the interval provided by this object looking for
    sessions that have been idle for more than the value
    provided by tn3270eSrvrConfActivityTimeout.
    Note that a value of 0 is not allowed for this object
    since the function that uses this object relies on
    tn3270eSrvrConfActivityCheck for function enablement."
DEFVAL { 120 } -- 2 minutes
::= { tn3270eSrvrConfEntry 5 }
```

tn3270eSrvrFunctionsSupported OBJECT-TYPE

```
SYNTAX      IANATn3270Functions
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
```

```
"This object indicates the functions supported by a
TN3270E server."
```

```
DEFVAL { { scsCtlCodes, dataStreamCtl,
```

```
        responses, bindImage, sysreq } }  
 ::= { tn3270eSrvrConfEntry 6 }
```

tn3270eSrvrConfAdminStatus OBJECT-TYPE

```
SYNTAX  INTEGER {  
        up(1),  
        down(2),  
        stopImmediate(3)  
    }
```

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The desired state of the TN3270E server represented by this entry in the table:

up(1) - Activate this TN3270E server.  
down(2) - Informs the associated TN3270E server to gracefully terminate its processing.  
stopImmediate(3) - Informs the associated TN3270E server to terminate itself immediately.

When a managed system creates an entry in this table, tn3270eSrvrConfAdminStatus and tn3270eSrvrConfOperStatus are initialized as up(1) by default.

The exact behavior of a server in response to a down(2) or stopImmediate(3) command is left implementation-dependent. As an example, a TN3270E server that closes all of its TN3270 and TN3270E sessions during termination is typically considered a to have terminated gracefully.

Often a stopImmediate(3) command is used as a last resort by a system administrator, to attempt to either bring down a hung TN3270E server or free up its resources immediately to aid in general system availability, or to shut down a TN3270E server that is not recognizing a down(2) request.

A TN3270E server that does not distinguish between down(2) or stopImmediate(3) transitions should not support stopImmediate(3)."

```
DEFVAL { up }
```

```
::= { tn3270eSrvrConfEntry 7 }
```

tn3270eSrvrConfOperStatus OBJECT-TYPE

```
SYNTAX  INTEGER {
```

```

                up(1),    -- TN3270E server is active
                down(2)  -- TN3270E server is not active
            }
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "The current operational state of a TN3270E server:

    up(1)     - The corresponding TN3270E server is active.
    down(2)   - The corresponding TN3270E server is not active.

    A TN3270E server is considered to be active when it can
    accept new client connections. Thus a server in the
    process of performing a graceful shutdown returns the
    value down(2) in this object. "
DEFVAL { up }
 ::= { tn3270eSrvrConfEntry 8 }

```

#### tn3270eSrvrConfSessionTermState OBJECT-TYPE

```

SYNTAX    INTEGER {
                terminate(1),
                luSessionPend(2),
                queueSession(3)
            }
MAX-ACCESS    read-create
STATUS        current
DESCRIPTION
    "The current state for determining what a TN3270E server
    should do when a TN3270 Session terminates:

    terminate(1)    => Terminate TCP connection.
    luSessionPend(2) => Do not drop the TCP Connection
                        associated with a client when their
                        TN3270 Session ends. Processing
                        should redrive session initialization
                        as if the client was first connecting.
    queueSession(3) => QUEUESESSION deals with CLSDST-Pass.
                        An example is the easiest explanation.
                        Assume APPL1 does a CLSDST-Pass
                        to APPL2. Then the client logs off
                        APPL without QUEUESESSION the
                        connection would now be broken. With
                        QUEUESESSION the TN3270E server keeps
                        the LU around after getting the APPL2
                        unbind waiting for a bind from APPL1."
DEFVAL { terminate }
 ::= { tn3270eSrvrConfEntry 9 }

```

```
tn3270eSrvrConfSrvrType OBJECT-TYPE
    SYNTAX      INTEGER {
                        host(1),
                        gateway(2)
                    }
    MAX-ACCESS  read-only
    STATUS      current
```

TN3270E Working Group

Expires July 1998

[Page 15]

---

Internet Draft

TN3270E MIB

January 1998

#### DESCRIPTION

"This object indicates the type of TN3270E server. The existence of MIB tables and objects that will be defined by follow-on MIBs may be predicated on whether the TN3270E server can be local to the same host as a target application (host(1)) or will always be remote (gateway(2)).

A host TN3270E server refers to an implementation where the TN3270E server is collocated with the Systems Network Architecture (SNA) System Services Control Point (SSCP) for the dependent Secondary Logical Units (SLUs) that the server makes available to its clients for connecting into an SNA network.

A gateway TN3270E server resides on an SNA node other than an SSCP, either an SNA type 2.0 node or an APPN node acting in the role of a Dependent LU Requester (DLUR).

Host and gateway TN3270E server implementations typically differ greatly as to their internal implementation and system definition (SYSDEF) requirements."

```
::= { tn3270eSrvrConfEntry 10 }
```

```
tn3270eSrvrConfContact OBJECT-TYPE
```

```
    SYNTAX      SnmpAdminString
    MAX-ACCESS  read-create
    STATUS      current
```

#### DESCRIPTION

"This object provides a scratch pad for a TN3270E server administrator for storing information for later retrieval."

```
::= { tn3270eSrvrConfEntry 11 }
```

```
tn3270eSrvrConfRowStatus OBJECT-TYPE
```

```
    SYNTAX      RowStatus
    MAX-ACCESS  read-create
```

STATUS current

DESCRIPTION

"This object allows entries to be created and deleted in the tn3270eSrvrConfTable.

When a tn3270eSrvrConfEntry is deleted (by setting this object to destroy(6)), this has the side-effect of removing all the associated entries (i.e., those having the same tn3270eSrvrConfIndex) from the tn3270eSrvrPortTable, the tn3270eSrvrStatsTable, the tn3270eClientGroupTable, the tn3270eResPoolTable, the tn3270eSnaMapTable, the tn3270eClientResMapTable, and the tn3270eResMapTable. All entries in the tn3270eTcpConnTable that belong to a TN3270E server that has been deleted MUST also be removed.

In other words, a tn3270eSrvrConfEntry must exist for a TN3270E server in order for it to have entries in

any of the other tables defined by this MIB."

REFERENCE

"[RFC 1903](#), 'Textual Conventions for version 2 of the Simple Network Management Protocol (SNMPv2).'"

::= { tn3270eSrvrConfEntry 12 }

tn3270eSrvrPortTable OBJECT-TYPE

SYNTAX SEQUENCE OF Tn3270eSrvrPortEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table defines the TCP ports associated with TN3270E servers. No entry in this table SHALL exist without a corresponding (same tn3270eSrvrConfIndex) entry in the tn3270eSrvrConfTable existing."

::= { tn3270eObjects 2 }

tn3270eSrvrPortEntry OBJECT-TYPE

SYNTAX Tn3270eSrvrPortEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Definition of a single TCP port assignment to a TN3270E server. Assignment of a port on a local address basis is enabled through use of tn3270eSrvrPortAddrType and tn3270eSrvrPortAddress.

A TCP port assignment that is not restricted to a local address SHALL specify a tn3270eSrvrPortAddrType of unknown(0), and SHALL use a zero-length octet string for the tn3270eSrvrPortAddress."

```
INDEX      {
            tn3270eSrvrConfIndex,
            tn3270eSrvrPort,
            tn3270eSrvrPortAddrType,
            tn3270eSrvrPortAddress
          }
 ::= { tn3270eSrvrPortTable 1 }
```

```
Tn3270eSrvrPortEntry ::= SEQUENCE {
  tn3270eSrvrPort           Unsigned32,
  tn3270eSrvrPortAddrType  Tn3270eAddrType,
  tn3270eSrvrPortAddress   Tn3270eTAddress,
  tn3270eSrvrPortRowStatus RowStatus
}
```

```
tn3270eSrvrPort OBJECT-TYPE
  SYNTAX      Unsigned32 (0..65535)
  MAX-ACCESS  not-accessible
  STATUS      current
  DESCRIPTION
    "Indicates a port assigned to a server."
  ::= { tn3270eSrvrPortEntry 1 }
```

```
tn3270eSrvrPortAddrType OBJECT-TYPE
```

TN3270E Working Group

Expires July 1998

[Page 17]

---

Internet Draft

TN3270E MIB

January 1998

```
SYNTAX      Tn3270eAddrType
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
  "Indicates the type of an address local to the host on
  which the TN3270E server resides that is represented
  in tn3270eSrvrPortAddress. A value of unknown(0)
  SHALL be used for this object when the port is not
  to be restricted to a local address."
 ::= { tn3270eSrvrPortEntry 2 }
```

```
tn3270eSrvrPortAddress OBJECT-TYPE
  SYNTAX      Tn3270eTAddress
  MAX-ACCESS  not-accessible
  STATUS      current
```

#### DESCRIPTION

"A local address on the host that a TN3270E server resides on that is associated with a TCP port that is to be used or is in use by a TN3270E server. tn3270eClientGroupAddrType indicates the address type (ipv4 or ipv6 for example).

A zero-length octet string SHALL be used as the value of this object when a local address isn't being specified."

::= { tn3270eSrvrPortEntry 3 }

#### tn3270eSrvrPortRowStatus OBJECT-TYPE

SYNTAX RowStatus  
MAX-ACCESS read-create  
STATUS current

#### DESCRIPTION

"This object allows entries to be created and deleted in the tn3270eSrvrPortTable.

An entry in this table is deleted by setting this object to destroy(6). Deletion of a tn3270eSrvrPortEntry has no effect on any other table entry defined by this MIB."

#### REFERENCE

"[RFC 1903](#), 'Textual Conventions for version 2 of the Simple Network Management Protocol (SNMPv2).'"

::= { tn3270eSrvrPortEntry 4 }

#### tn3270eSrvrStatsTable OBJECT-TYPE

SYNTAX SEQUENCE OF Tn3270eSrvrStatsEntry  
MAX-ACCESS not-accessible  
STATUS current

#### DESCRIPTION

"This table defines a set of statistics concerning TN3270E server performance.

No entry in this table SHALL exist without a corresponding (same tn3270eSrvrConfIndex) entry in the tn3270eSrvrConfTable existing."

::= { tn3270eObjects 3 }

#### tn3270eSrvrStatsEntry OBJECT-TYPE

SYNTAX Tn3270eSrvrStatsEntry  
MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"A collection of statistical objects for a single TN3270 server. An entry can represent the total activity of the server, or it can represent the activity occurring at the server on either a port or port-and-local-address basis. Refer to the text description for tn3270eSrvrPortEntry.

Collection of the statistics represented by the objects in this table is not mandatory. An implementation may limit itself to keeping global statistics for a TN3270E server. The indexing for the row containing these global server statistics is as follows:

tn3270eSrvrConfIndex	value identifying the server
tn3270eSrvrPort	0
tn3270eSrvrPortAddrType	unknown(0)
tn3270eSrvrPortAddress	zero-length octet string.

The values of the following objects are implementation-dependent for statistics that are being kept on either a port or port-and-local-address basis:

tn3270eSrvrStatsMaxLus  
tn3270eSrvrStatsMaxLus  
tn3270eSrvrStatsInUseLus  
tn3270eSrvrStatsSpareLus  
tn3270eSrvrStatsMaxPtrs  
tn3270eSrvrStatsInUsePtrs  
tn3270eSrvrStatsSparePtrs

A TN3270E server that doesn't allow assignment of the resources being reported on by these objects on either a port or port-and-local-address basis should use the values that would be associated with an entire TN3270E server."

```
INDEX {
    tn3270eSrvrConfIndex,
    tn3270eSrvrPort,
    tn3270eSrvrPortAddrType,
    tn3270eSrvrPortAddress
}
```

```
::= { tn3270eSrvrStatsTable 1 }
```

```
Tn3270eSrvrStatsEntry ::= SEQUENCE {
    tn3270eSrvrStatsUpTime      TimeTicks,
    tn3270eSrvrStatsMaxLus     Unsigned32,
    tn3270eSrvrStatsInUseLus   Gauge32,
    tn3270eSrvrStatsSpareLus   Gauge32,
    tn3270eSrvrStatsMaxPtrs    Unsigned32,
```

Internet Draft

TN3270E MIB

January 1998

```
tn3270eSrvrStatsInUsePtrs      Gauge32,  
tn3270eSrvrStatsSparePtrs     Gauge32,  
tn3270eSrvrStatsInConnects    Counter32,  
tn3270eSrvrStatsConnRejects  Counter32,  
tn3270eSrvrStatsDisconnects  Counter32,  
tn3270eSrvrStatsHCInOctets    Counter64,  
tn3270eSrvrStatsInOctets      Counter32,  
tn3270eSrvrStatsHCOutOctets   Counter64,  
tn3270eSrvrStatsOutOctets     Counter32  
}
```

tn3270eSrvrStatsUpTime OBJECT-TYPE

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates when activity begins for a TN3270E server as represented by an entry in this table. The value of this object does not get reset based on port usage status changes or changes to tn3270eSrvrConfOperStatus."

::= { tn3270eSrvrStatsEntry 2 }

tn3270eSrvrStatsMaxLus OBJECT-TYPE

SYNTAX Unsigned32

UNITS "LUs"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates the maximum number of LUs for use by a TN3270E server."

::= { tn3270eSrvrStatsEntry 3 }

tn3270eSrvrStatsInUseLus OBJECT-TYPE

SYNTAX Gauge32

UNITS "LUs"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates the current number of LUs in use by a TN3270E server."

::= { tn3270eSrvrStatsEntry 4 }

tn3270eSrvrStatsSpareLus OBJECT-TYPE

SYNTAX Gauge32

UNITS "LUs"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Indicates the number of free LUs for a particular  
TN3270E server. It is possible that the difference  
between tn3270eSrvrStatsMaxLus and  
tn3270eSrvrStatsInUseLus does not equal  
tn3270eSrvrStatsSpareLus. An LU may exist  
but not be usable by a client connection."  
 ::= { tn3270eSrvrStatsEntry 5 }

TN3270E Working Group

Expires July 1998

[Page 20]

---

Internet Draft

TN3270E MIB

January 1998

tn3270eSrvrStatsMaxPtrs OBJECT-TYPE

SYNTAX Unsigned32  
UNITS "Printer Resources"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION

"Indicates the maximum number of Printer Resources for  
use by a TN3270E server."

::= { tn3270eSrvrStatsEntry 6 }

tn3270eSrvrStatsInUsePtrs OBJECT-TYPE

SYNTAX Gauge32  
UNITS "Printer Resources"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION

"Indicates the current number of Printer Resources in  
use by a TN3270E server."

::= { tn3270eSrvrStatsEntry 7 }

tn3270eSrvrStatsSparePtrs OBJECT-TYPE

SYNTAX Gauge32  
UNITS "Spare Printer Resources"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION

"Indicates the number of free Printer Resources for a  
particular TN3270E server. It is possible that the  
difference between tn3270eSrvrStatsMaxPtrs and  
tn3270eSrvrStatsInUsePtrs does not equal  
tn3270eSrvrStatsSparePtrs. A Printer resource may  
exist but not be usable by a client connection."

::= { tn3270eSrvrStatsEntry 8 }

tn3270eSrvrStatsInConnects OBJECT-TYPE

SYNTAX Counter32

UNITS "connections"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates the number of client (TCP) connections that succeeded at a TN3270E server. tn3270eSrvrStatsConnRejects represents failed connection attempts."

::= { tn3270eSrvrStatsEntry 9 }

tn3270eSrvrStatsConnRejects OBJECT-TYPE

SYNTAX Counter32

UNITS "connection attempts"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates the number of (TCP) connections rejected during connection setup at a TN3270E server. An example of this is when no LU or printer resource is available

to associate with the the client's TCP connection."

::= { tn3270eSrvrStatsEntry 10 }

tn3270eSrvrStatsDisconnects OBJECT-TYPE

SYNTAX Counter32

UNITS "disconnections"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates all of the (TCP) connections that were disconnected at a TN3270E server."

::= { tn3270eSrvrStatsEntry 11 }

tn3270eSrvrStatsHCInOctets OBJECT-TYPE

SYNTAX Counter64

UNITS "octets"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates the number of octets received from TN3270 and TN3270E clients."

::= { tn3270eSrvrStatsEntry 12 }

tn3270eSrvrStatsInOctets OBJECT-TYPE  
SYNTAX Counter32  
UNITS "octets"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Low order 32 bits of tn3270eSrvrStatsHCInOctets."  
 ::= { tn3270eSrvrStatsEntry 13 }

tn3270eSrvrStatsHCOutOctets OBJECT-TYPE  
SYNTAX Counter64  
UNITS "octets"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Indicates the number of octets sent to TN3270  
and TN3270E clients."  
 ::= { tn3270eSrvrStatsEntry 14 }

tn3270eSrvrStatsOutOctets OBJECT-TYPE  
SYNTAX Counter32  
UNITS "octets"  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
"Low order 32 bits of tn3270eSrvrStatsHCOutOctets."  
 ::= { tn3270eSrvrStatsEntry 15 }

tn3270eClientGroupTable OBJECT-TYPE  
SYNTAX SEQUENCE OF Tn3270eClientGroupEntry  
MAX-ACCESS not-accessible  
STATUS current

TN3270E Working Group

Expires July 1998

[Page 22]

---

Internet Draft

TN3270E MIB

January 1998

DESCRIPTION

"This table defines client address groupings for use  
by a TN3270E server.

No entry in this table SHALL exist without  
a corresponding (same tn3270eSrvrConfIndex) entry in  
the tn3270eSrvrConfTable existing."

::= { tn3270eObjects 4 }

tn3270eClientGroupEntry OBJECT-TYPE  
SYNTAX Tn3270eClientGroupEntry

MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
"Definition of a single client address entry. All entries with the same first two indexes, tn3270eSrvrConfIndex and tn3270eClientGroupName, are considered to be in the same client group."  
INDEX { tn3270eSrvrConfIndex,  
tn3270eClientGroupName,  
tn3270eClientGroupAddrType,  
tn3270eClientGroupAddress }  
::= { tn3270eClientGroupTable 1 }

Tn3270eClientGroupEntry ::= SEQUENCE {  
tn3270eClientGroupName Utf8String,  
tn3270eClientGroupAddrType Tn3270eAddrType,  
tn3270eClientGroupAddress Tn3270eTAddress,  
tn3270eClientGroupSubnetMask IpAddress,  
tn3270eClientGroupPfxLength Unsigned32,  
tn3270eClientGroupRowStatus RowStatus }

tn3270eClientGroupName OBJECT-TYPE  
SYNTAX Utf8String (SIZE(1..24))  
MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
"The name of a client group. Note: client group names are required to be unique only with respect to a single TN3270E server."  
::= { tn3270eClientGroupEntry 1 }

tn3270eClientGroupAddrType OBJECT-TYPE  
SYNTAX Tn3270eAddrType  
MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
"Indicates the type of the address represented in tn3270eClientGroupAddress."  
::= { tn3270eClientGroupEntry 2 }

tn3270eClientGroupAddress OBJECT-TYPE  
SYNTAX Tn3270eTAddress  
MAX-ACCESS not-accessible  
STATUS current

DESCRIPTION

"The client address of a member of a client group. The value of tn3270eClientGroupAddrType indicates the address type (ipv4 or ipv6 for example)."

::= { tn3270eClientGroupEntry 3 }

tn3270eClientGroupSubnetMask OBJECT-TYPE

SYNTAX IPAddress

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The corresponding subnet mask associated with tn3270eClientGroupAddress. A single IP address is represented by having this object contain the value of 255.255.255.255. This object's value is meaningful only if tn3270eClientGroupAddrType has a value of ipv4(1)."

DEFVAL { 'FFFFFFFF'H }

::= { tn3270eClientGroupEntry 4 }

tn3270eClientGroupPfxLength OBJECT-TYPE

SYNTAX Unsigned32 (0..128)

UNITS "bits"

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The corresponding IPv6 network prefix length. This object is valid only if tn3270eClientGroupAddrType has a value of ipv6(2)."

DEFVAL { 0 }

::= { tn3270eClientGroupEntry 5 }

tn3270eClientGroupRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"This object allows entries to be created and deleted in the tn3270eClientGroupTable.

An entry in this table is deleted by setting this object to destroy(6). This has the side-effect of removing any entries in the tn3270eClientResMapTable for the client group being removed (tn3270eSrvrConfIndex values should be the same and tn3270eClientGroupName should match tn3270eClientResMapClientGroupName.)"

REFERENCE

"[RFC 1903](#), 'Textual Conventions for version 2 of the Simple Network Management Protocol (SNMPv2).'"

::= { tn3270eClientGroupEntry 6 }

tn3270eResPoolTable OBJECT-TYPE  
SYNTAX SEQUENCE OF Tn3270eResPoolEntry  
MAX-ACCESS not-accessible  
STATUS current

TN3270E Working Group

Expires July 1998

[Page 24]

---

Internet Draft

TN3270E MIB

January 1998

DESCRIPTION

"This table defines resource groupings; the term 'pool' is used as it is defined by [RFC 1647](#).

No entry in this table SHALL exist without a corresponding (same tn3270eSrvrConfIndex) entry in the tn3270eSrvrConfTable existing."

::= { tn3270eObjects 5 }

tn3270eResPoolEntry OBJECT-TYPE

SYNTAX Tn3270eResPoolEntry  
MAX-ACCESS not-accessible  
STATUS current

DESCRIPTION

"Definition of a single resource pool member. All entries with the same first two indexes, tn3270eSrvrConfIndex and tn3270eResPoolName, are considered to be in the same pool."

INDEX { tn3270eSrvrConfIndex,  
tn3270eResPoolName,  
tn3270eResPoolElementName }

::= { tn3270eResPoolTable 1 }

Tn3270eResPoolEntry ::= SEQUENCE {  
tn3270eResPoolName Utf8String,  
tn3270eResPoolElementName SnaResourceName,  
tn3270eResPoolElementType Tn3270ResourceType,  
tn3270eResPoolRowStatus RowStatus }

tn3270eResPoolName OBJECT-TYPE

SYNTAX Utf8String (SIZE(1..24))  
MAX-ACCESS not-accessible  
STATUS current

DESCRIPTION

"The name of a resource pool."

::= { tn3270eResPoolEntry 1 }

tn3270eResPoolElementName OBJECT-TYPE

SYNTAX SnaResourceName  
MAX-ACCESS not-accessible  
STATUS current

DESCRIPTION

"The name of a member of a resource pool."  
 ::= { tn3270eResPoolEntry 2 }

tn3270eResPoolElementType OBJECT-TYPE

SYNTAX Tn3270ResourceType

MAX-ACCESS read-create

STATUS current

DESCRIPTION

"The type of the entity in a resource pool."  
 ::= { tn3270eResPoolEntry 3 }

tn3270eResPoolRowStatus OBJECT-TYPE

SYNTAX RowStatus

MAX-ACCESS read-create

TN3270E Working Group

Expires July 1998

[Page 25]

---

Internet Draft

TN3270E MIB

January 1998

STATUS current

DESCRIPTION

"This object allows entries to be created and deleted in the tn3270eResPoolTable.

An entry in this table is deleted by setting this object to destroy(6). When all entries in this table associated with the same tn3270eResPoolElementName have been removed, then any associated (tn3270eResPoolElementName matching tn3270eClientResMapPoolName with same tn3270eSrvrConfIndex values) entries in the tn3270eClientResMapTable SHALL also be removed."

REFERENCE

"[RFC 1903](#), 'Textual Conventions for version 2 of the Simple Network Management Protocol (SNMPv2).'"

::= { tn3270eResPoolEntry 4 }

tn3270eSnaMapTable OBJECT-TYPE

SYNTAX SEQUENCE OF Tn3270eSnaMapEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table provide a mapping from the name by which a secondary LU is known in the SNA network to the name by which it is known locally at the TN3270e server. This latter name serves as an index into the tn3270eResPoolTable and the tn3270eResMapTable.

No entry in this table SHALL exist without

a corresponding (same tn3270eSrvrConfIndex) entry in the tn3270eSrvrConfTable existing."  
 ::= { tn3270eObjects 6 }

tn3270eSnaMapEntry OBJECT-TYPE

SYNTAX Tn3270eSnaMapEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Definition of a single mapping from an SSCP-supplied SLU name to a local SLU name."

INDEX { tn3270eSrvrConfIndex,  
 tn3270eSnaMapSscpSuppliedName }

::= { tn3270eSnaMapTable 1 }

Tn3270eSnaMapEntry ::= SEQUENCE {

tn3270eSnaMapSscpSuppliedName SnaResourceName,

tn3270eSnaMapLocalName SnaResourceName,

tn3270eSnaMapPrimaryLuName SnaResourceName }

tn3270eSnaMapSscpSuppliedName OBJECT-TYPE

SYNTAX SnaResourceName

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The name of the secondary LU (SLU) as it is known in

TN3270E Working Group

Expires July 1998

[Page 26]

---

Internet Draft

TN3270E MIB

January 1998

the SNA network. This name is sent by the SSCP on the Activate Logical Unit (ACTLU) request."  
 ::= { tn3270eSnaMapEntry 1 }

tn3270eSnaMapLocalName OBJECT-TYPE

SYNTAX SnaResourceName

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The local name of the secondary LU (SLU)."

::= { tn3270eSnaMapEntry 2 }

tn3270eSnaMapPrimaryLuName OBJECT-TYPE

SYNTAX SnaResourceName

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"When there is a currently active LU-LU session for

this connection, this object returns the primary LU (PLU) name from the BIND. When there is no active LU-LU session, or when the PLU name is unavailable for some other reason, this object returns a zero-length octet string."

::= { tn3270eSnaMapEntry 3 }

tn3270eClientResMapTable OBJECT-TYPE

SYNTAX SEQUENCE OF Tn3270eClientResMapEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table defines resource-pool to client-group mappings. Since both the resource pool name and client group name are included in the index clause of this table, multiple resource pools can be assigned to the same client group. This enables use of multiple resource pools for use in client to resource mapping. Assigning multiple client Groups to the same resource pool is also allowed, but is not the primary purpose for how the indexing is structured.

Assignment of a resource pool to client group can be restricted based on TCP port. An index value of 0 for tn3270eClientResMapClientPort disables restriction of resource assignment based on client target port selection.

No entry in this table SHALL exist without a corresponding (same tn3270eSrvrConfIndex) entry in the tn3270eSrvrConfTable existing."

::= { tn3270eObjects 7 }

tn3270eClientResMapEntry OBJECT-TYPE

SYNTAX Tn3270eClientResMapEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Definition of a single resource pool to client group mapping."

INDEX { tn3270eSrvrConfIndex,  
tn3270eClientResMapPoolName,  
tn3270eClientResMapClientGroupName,  
tn3270eClientResMapClientPort }

::= { tn3270eClientResMapTable 1 }

Tn3270eClientResMapEntry ::= SEQUENCE {  
tn3270eClientResMapPoolName Utf8String,  
tn3270eClientResMapClientGroupName Utf8String,  
tn3270eClientResMapClientPort Unsigned32,  
tn3270eClientResMapRowStatus RowStatus }

tn3270eClientResMapPoolName OBJECT-TYPE  
SYNTAX Utf8String (SIZE(1..24))  
MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
"The name of a resource pool."  
::= { tn3270eClientResMapEntry 1 }

tn3270eClientResMapClientGroupName OBJECT-TYPE  
SYNTAX Utf8String (SIZE(1..24))  
MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
"The name of the client group that is mapped to a  
resource pool."  
::= { tn3270eClientResMapEntry 2 }

tn3270eClientResMapClientPort OBJECT-TYPE  
SYNTAX Unsigned32 (0..65535)  
MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
"The port to restrict a resource pool to a client  
group mapping. A value of 0 for this objects implies  
that the mapping is not restricted."  
::= { tn3270eClientResMapEntry 3 }

tn3270eClientResMapRowStatus OBJECT-TYPE  
SYNTAX RowStatus  
MAX-ACCESS read-create  
STATUS current  
DESCRIPTION  
"This object allows entries to be created and deleted  
in the tn3270eClientResMapTable.  
  
An entry in this table is deleted by setting this object  
to destroy(6). Removing an entry from this table doesn't  
affect any other table entry defined by this MIB."  
REFERENCE  
"[RFC 1903](#), 'Textual Conventions for version 2 of the

```
Simple Network Management Protocol (SNMPv2).'"  
 ::= { tn3270eClientResMapEntry 4 }
```

tn3270eResMapTable OBJECT-TYPE

SYNTAX SEQUENCE OF Tn3270eResMapEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table defines the actual mapping of a resource to a client address.

No entry in this table SHALL exist without a corresponding (same tn3270eSrvrConfIndex) entry in the tn3270eSrvrConfTable existing."

```
 ::= { tn3270eObjects 8 }
```

tn3270eResMapEntry OBJECT-TYPE

SYNTAX Tn3270eResMapEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Definition of the mapping of a Resource Element to a client address."

INDEX { tn3270eSrvrConfIndex,  
 tn3270eResMapElementName }

```
 ::= { tn3270eResMapTable 1 }
```

Tn3270eResMapEntry ::= SEQUENCE {

tn3270eResMapElementName SnaResourceName,

tn3270eResMapAddrType Tn3270eAddrType,

tn3270eResMapAddress Tn3270eTAddress,

tn3270eResMapPort Unsigned32,

tn3270eResMapElementType Tn3270ResourceType,

tn3270eResMapSscpSuppliedName SnaResourceName }

tn3270eResMapElementName OBJECT-TYPE

SYNTAX SnaResourceName

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The name of a resource element. This is the name by which the server implementing this table knows the resource. It may be different from the name by which the resource is known in the SNA network. In this case the name by which the resource is known in the SNA network is returned in the tn3270eResMapSscpSuppliedName object."

```
 ::= { tn3270eResMapEntry 1 }
```

tn3270eResMapAddrType OBJECT-TYPE

SYNTAX Tn3270eAddrType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates the type of the client address represented"

TN3270E Working Group

Expires July 1998

[Page 29]

---

Internet Draft

TN3270E MIB

January 1998

in tn3270eResMapAddress."

::= { tn3270eResMapEntry 2 }

tn3270eResMapAddress OBJECT-TYPE

SYNTAX Tn3270eTAddress

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"A client address."

::= { tn3270eResMapEntry 3 }

tn3270eResMapPort OBJECT-TYPE

SYNTAX Unsigned32 (0..65535)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"A client port."

::= { tn3270eResMapEntry 4 }

tn3270eResMapElementType OBJECT-TYPE

SYNTAX Tn3270ResourceType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The type of the associated resource element."

::= { tn3270eResMapEntry 5 }

tn3270eResMapSscpSuppliedName OBJECT-TYPE

SYNTAX SnaResourceName

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The name of the secondary LU (SLU) as it is known in a SNA network. This name is sent by the SSCP on the Activate Logical Unit (ACTLU) request. The value of this object is a zero-length octet string if the tn3270eResMapElementName is the same as the

```
SSCP-supplied name."  
 ::= { tn3270eResMapEntry 6 }
```

-- Define the set of objects to supplement the TCP Connection Table

```
tn3270eTcpConnTable OBJECT-TYPE  
SYNTAX SEQUENCE OF Tn3270eTcpConnEntry  
MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
    "Provides a table that has an entry for each TN3270(E)  
    client connection that is active at a TN3270E server.  
    The table was originally modeled after the tcpConnTable  
    but was changed to support different client address types  
    and to be indexed first by the remote address and port  
    as oppose to local address and port. This is to enable  
    use of a SNMP GET-NEXT operation using only the remote  
    address and port."
```

TN3270E Working Group

Expires July 1998

[Page 30]

---

Internet Draft

TN3270E MIB

January 1998

```
 ::= { tn3270eObjects 9 }
```

```
tn3270eTcpConnEntry OBJECT-TYPE  
SYNTAX Tn3270eTcpConnEntry  
MAX-ACCESS not-accessible  
STATUS current  
DESCRIPTION  
    "Provides in formation about a single TN3270/TN3270E  
    session. Note: a tn3270eSrvrConfIndex is not needed  
    in this table since the combination of both remote  
    local addresses and ports is sufficient to  
    guarantee uniqueness between TN3270E servers that  
    may or may not be serviced by the same SNMP agent."  
INDEX { tn3270eTcpConnRemAddrType,  
        tn3270eTcpConnRemAddress,  
        tn3270eTcpConnRemPort,  
        tn3270eTcpConnLocalAddrType,  
        tn3270eTcpConnLocalAddress,  
        tn3270eTcpConnLocalPort  
    }  
 ::= { tn3270eTcpConnTable 1 }
```

```
Tn3270eTcpConnEntry ::=  
SEQUENCE  
{  
    tn3270eTcpConnRemAddrType          Tn3270eAddrType,
```

tn3270eTcpConnRemAddress	Tn3270eTAddress,
tn3270eTcpConnRemPort	Unsigned32,
tn3270eTcpConnLocalAddrType	Tn3270eAddrType,
tn3270eTcpConnLocalAddress	Tn3270eTAddress,
tn3270eTcpConnLocalPort	Unsigned32,
tn3270eTcpConnLastActivity	TimeTicks,
tn3270eTcpConnBytesIn	Counter32,
tn3270eTcpConnBytesOut	Counter32,
tn3270eTcpConnResourceElement	SnaResourceName,
tn3270eTcpConnResourceType	Tn3270ResourceType,
tn3270eTcpConnDeviceType	Tn3270DeviceTypes,
tn3270eTcpConnFunctions	IANATn3270Functions,
tn3270eTcpConnId	Unsigned32,
tn3270eTcpConnClientIdFormat	IANATn3270eClientType,
tn3270eTcpConnClientId	OCTET STRING,
tn3270eTcpConnTraceData	Tn3270eTraceData,
tn3270eTcpConnLogInfo	IANATn3270eLogData,
tn3270eTcpConnLuLuBindImage	OCTET STRING,
tn3270eTcpConnSnaState	INTEGER,
tn3270eTcpConnStateLastDiscReason	INTEGER,
tn3270eTcpConnSrvrConfIndex	Unsigned32

}

tn3270eTcpConnRemAddrType OBJECT-TYPE  
 SYNTAX Tn3270eAddrType  
 MAX-ACCESS not-accessible  
 STATUS current  
 DESCRIPTION  
 "Indicates the type of the value of the

tn3270eTcpConnRemAddress object. For example,  
 ipv4(1) or ipv6(2)."  
 ::= { tn3270eTcpConnEntry 1 }

tn3270eTcpConnRemAddress OBJECT-TYPE  
 SYNTAX Tn3270eTAddress  
 MAX-ACCESS not-accessible  
 STATUS current  
 DESCRIPTION  
 "The remote address associated with a TN3270E client.  
 tn3270eTcpConnRemAddrType indicates the address type  
 (ipv4 or ipv6 for example).

If a TN3270(E) client is connected to its  
 server via a proxy client the address represented by

the value of this object shall be the remote client's address, not the proxy client's address."  
 ::= { tn3270eTcpConnEntry 2 }

tn3270eTcpConnRemPort OBJECT-TYPE

SYNTAX Unsigned32 (1..65535)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The remote port associated with a TN3270E client.

If a TN3270(E) client is connected to its server via a proxy client the port represented by the value of this object shall be the remote client's port, not the proxy client's port."

::= { tn3270eTcpConnEntry 3 }

tn3270eTcpConnLocalAddrType OBJECT-TYPE

SYNTAX Tn3270eAddrType

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Indicates the type of the value of the tn3270eTcpConnLocalAddress object. For example, ipv4(1) or ipv6(2)."

::= { tn3270eTcpConnEntry 4 }

tn3270eTcpConnLocalAddress OBJECT-TYPE

SYNTAX Tn3270eTAddress

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The local address associated with a TN3270E client. tn3270eTcpConnRemAddrType indicates the address type (ipv4 or ipv6 for example)."

::= { tn3270eTcpConnEntry 5 }

tn3270eTcpConnLocalPort OBJECT-TYPE

SYNTAX Unsigned32 (1..65535)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"The remote port associated with a TN3270E client."

::= { tn3270eTcpConnEntry 6 }

```

tn3270eTcpConnLastActivity OBJECT-TYPE
    SYNTAX    TimeTicks
    MAX-ACCESS    read-only
    STATUS    current
    DESCRIPTION
        "The number of 100ths of seconds since any data was
        transferred for the associated TCP Connection."
    DEFVAL    { 0 }
    ::= { tn3270eTcpConnEntry 7 }

tn3270eTcpConnBytesIn OBJECT-TYPE
    SYNTAX    Counter32
    UNITS    "octets"
    MAX-ACCESS    read-only
    STATUS    current
    DESCRIPTION
        "The number of bytes received by the server from TCP
        for this connection."
    ::= { tn3270eTcpConnEntry 8 }

tn3270eTcpConnBytesOut OBJECT-TYPE
    SYNTAX    Counter32
    UNITS    "octets"
    MAX-ACCESS    read-only
    STATUS    current
    DESCRIPTION
        "The number of bytes sent to TCP for this connection."
    ::= { tn3270eTcpConnEntry 9 }

tn3270eTcpConnResourceElement OBJECT-TYPE
    SYNTAX    SnaResourceName
    MAX-ACCESS    read-only
    STATUS    current
    DESCRIPTION
        "LU/Print secondary name for connecting an client
        into an SNA network."
    ::= { tn3270eTcpConnEntry 10 }

tn3270eTcpConnResourceType OBJECT-TYPE
    SYNTAX    Tn3270ResourceType
    MAX-ACCESS    read-only
    STATUS    current
    DESCRIPTION
        "Indicates the type of resource identified by
        tn3270eTcpConnResourceElement."
    ::= { tn3270eTcpConnEntry 11 }

tn3270eTcpConnDeviceType OBJECT-TYPE
    SYNTAX    Tn3270DeviceTypes
    MAX-ACCESS    read-only

```

Internet Draft

TN3270E MIB

January 1998

STATUS current

DESCRIPTION

"Indicates the device type if negotiated with the client. A value of unknown(0) should be used as the value of this object when a device type is not negotiated. Refer to [RFC 1647](#) for how device types can be negotiated."

::= { tn3270eTcpConnEntry 12 }

tn3270eTcpConnFunctions OBJECT-TYPE

SYNTAX IANATn3270Functions

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object indicates which of the TN3270 and TN3270E functions were negotiated by the server and the client for this TCP connection.

Refer to tn3270eSrvrFunctionsSupported for the list of these functions supported by the server."

::= { tn3270eTcpConnEntry 13 }

tn3270eTcpConnId OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The connection identifier associated with a TN3270 or a TN3270E session's TCP connection. TCP implementations often assign a unique (with respect to itself) unsigned integer as an identifier for a TCP connection. Implementations that do not support assignment of unsigned integer connection identifiers should not support this object."

::= { tn3270eTcpConnEntry 14 }

tn3270eTcpConnClientIdFormat OBJECT-TYPE

SYNTAX IANATn3270eClientType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The format of a corresponding tn3270eTcpConnClientId object as defined by the IANSTn3270eClientType textual convention imported from the

```
        IANATn3270eTC-MIB."  
 ::= { tn3270eTcpConnEntry 15 }
```

```
tn3270eTcpConnClientId OBJECT-TYPE  
SYNTAX      OCTET STRING (SIZE (0..512))  
MAX-ACCESS  read-only  
STATUS      current  
DESCRIPTION  
    "Additional client identification information. The  
    type of this information is indicated by the value of  
    the corresponding tn3270eTcpConnClientIdFormat object.
```

TN3270E Working Group

Expires July 1998

[Page 34]

---

Internet Draft

TN3270E MIB

January 1998

```
    The purpose of this object is to provide an alternate  
    means of identifying a client, other than though the  
    remote address returned in tn3270eTcpConnRemAddress."  
 ::= { tn3270eTcpConnEntry 16 }
```

```
tn3270eTcpConnTraceData OBJECT-TYPE  
SYNTAX      Tn3270eTraceData  
MAX-ACCESS  read-only  
STATUS      current  
DESCRIPTION  
    "Trace data for this session."  
 ::= { tn3270eTcpConnEntry 17 }
```

```
tn3270eTcpConnLogInfo OBJECT-TYPE  
SYNTAX      IANATn3270eLogData  
MAX-ACCESS  read-only  
STATUS      current  
DESCRIPTION  
    "Log information, encoded as specified in the  
    IANATn3270eLogData textual convention from the  
    IANATn3270eTC-MIB."  
 ::= { tn3270eTcpConnEntry 18 }
```

```
tn3270eTcpConnLuLuBindImage OBJECT-TYPE  
SYNTAX      OCTET STRING (SIZE (0..256))  
MAX-ACCESS  read-only  
STATUS      current  
DESCRIPTION  
    "When there is a currently active LU-LU session for  
    this connection, this object returns the BIND Image  
    (defined to be bytes 1-p of the complete BIND Request  
    Unit) that was received from the PLU during session
```

activation. When there is no active LU-LU session, or when a BIND image is unavailable for some other reason, this object returns a zero-length octet string."  
 ::= { tn3270eTcpConnEntry 19 }

tn3270eTcpConnSnaState OBJECT-TYPE

SYNTAX INTEGER {  
    unknown(0),  
    noSluSession(1),  
    sscpLuSession(2), -- but no LU-LU session  
    luLuSession(3),  
    establishingSscpLuSession(4),  
    establishingLuSession(5)  
}

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The current state of the SNA side of the end-to-end TN3270 connection. The following states are defined:

unknown(0)           - The true state is not known.  
noSluSession(1)      - The SLU has neither an SSCP-LU

TN3270E Working Group

Expires July 1998

[Page 35]

---

Internet Draft

TN3270E MIB

January 1998

sscpLuSession(2)     nor an LU-LU session active.  
                      - The SSCP-LU session for the SLU  
                      is active, but the SLU is not  
                      currently in session with a PLU.  
luLuSession(3)       - The SLU currently has an active  
                      session with a PLU.  
establishingSscpLuSession(4) - Currently, disconnected  
                      and in the process of establishing  
                      an SSCP to LU session.  
establishingLuSession(5) - Currently, disconnected  
                      and in the process of establishing  
                      an LU to LU session."

::= { tn3270eTcpConnEntry 20 }

tn3270eTcpConnStateLastDiscReason OBJECT-TYPE

SYNTAX INTEGER {  
    unknown(0),  
    hostSendsUnbind(1),  
    hostDontAcceptConnection(2),  
    outOfResource(3),  
    clientProtocolError(4),  
    invalidDeviceName(5),

```

        deviceInUse(6),
        inactivityTimeout(7),
        hostNotResponding(8),
        clientNotResponding(9),
        tcpClose(10),
        serverClose(11),
        sysreqLogoff(12),
        serverSpecificHexCode(13)
    }
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "The last disconnect reason. Note: that a session
    that has not experienced a disconnect would use
    a value of unknown(0) for this object."
 ::= { tn3270eTcpConnEntry 21 }

```

```

tn3270eTcpConnSrvrConfIndex OBJECT-TYPE
    SYNTAX      Unsigned32 (1..4294967295)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "tn3270eSrvrConfIndex of the tn3270eSrvrConfEntry
        belonging to the TN3270E server to whom this entry
        belongs."
 ::= { tn3270eTcpConnEntry 22 }

```

```

tn3270eConfSpinLock OBJECT-TYPE
    SYNTAX      TestAndIncr
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "An advisory lock used to allow cooperating

```

TN3270E-MIB applications to coordinate their use of the tn3270eSrvrConfTable, the tn3270eSrvrPortTable, the tn3270eClientGroupTable, the tn3270eResPoolTable, and the tn3270eClientResMapTable.

When an application seeks to create a new entry or alter an existing entry in any of the above mentioned tables, an implementation MAY require the application to use the tn3270eConfSpinLock to serialize its changes or additions relative to those initiated by other

```
    applications.  Since this is an advisory lock, an
    implementation is not required to support it."
 ::= { tn3270eObjects 10 }
```

```
-- Conformance Definitions
```

```
tn3270eGroups      OBJECT IDENTIFIER ::= { tn3270eConformance 1 }
```

```
tn3270eCompliances OBJECT IDENTIFIER ::= { tn3270eConformance 2 }
```

```
-- compliance statements
```

```
tn3270eCompliance MODULE-COMPLIANCE
```

```
  STATUS current
```

```
  DESCRIPTION
```

```
    "The compliance statement for agents that support the
    TN3270E-MIB."
```

```
  MODULE -- this module
```

```
  MANDATORY-GROUPS { tn3270eBasicGroup,
                      tn3270eSessionGroup
                      }
```

```
  GROUP          tn3270eResMapGroup
```

```
  DESCRIPTION
```

```
    "This group is optional and provides a method of
    performing tn3270eClientGroup to tn3270eResPool
    mapping."
```

```
  GROUP          tn3270eHiCapacityGroup
```

```
  DESCRIPTION
```

```
    "This group is optional and provides for support
    of high capacity counters."
```

```
  OBJECT tn3270eSrvrConfActivityCheck
```

```
    MIN-ACCESS read-only
```

```
    DESCRIPTION
```

```
      "The agent is not required to support a set to this
      object if the associated TN3270E server doesn't
      support either TIMEMARK or NOP processing.  In
      this case an agent should return noCheck on
      retrieval."
```

```
  OBJECT tn3270eSrvrConfActivityTimeout
```

```
    MIN-ACCESS read-only
```

```
    DESCRIPTION
```

```
TN3270E Working Group
```

```
Expires July 1998
```

```
[Page 37]
```

"The agent is not required to support a set to this object if the functions enabled by tn3270eSrvrConfActivityCheck are not supported. An agent in this case should return a value of 0."

OBJECT tn3270eSrvrConfActivityInterval

MIN-ACCESS read-only

DESCRIPTION

"The agent is not required to support a set to this object if the functions enabled by tn3270eSrvrConfActivityCheck are not supported. An agent in this case should return a value of 0."

OBJECT tn3270eSrvrConfAdminStatus

DESCRIPTION

"A TN3270E server is not required to support a stopImmediate state transition."

OBJECT tn3270eSrvrConfRowStatus

SYNTAX INTEGER {

active(1) -- subset of RowStatus

}

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required, and only one of the six enumerated values for the RowStatus textual convention need be supported, specifically: active(1)."

OBJECT tn3270eSrvrPortRowStatus

SYNTAX INTEGER {

active(1) -- subset of RowStatus

}

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required, and only one of the six enumerated values for the RowStatus textual convention need be supported, specifically: active(1)."

OBJECT tn3270eClientGroupRowStatus

SYNTAX INTEGER {

active(1) -- subset of RowStatus

}

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required, and only one of the six enumerated values for the RowStatus textual convention need be supported, specifically: active(1)."

OBJECT tn3270eResPoolRowStatus

```
SYNTAX  INTEGER {
        active(1) -- subset of RowStatus
    }
```

TN3270E Working Group

Expires July 1998

[Page 38]

---

Internet Draft

TN3270E MIB

January 1998

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required, and only one of the six enumerated values for the RowStatus textual convention need be supported, specifically: active(1)."

OBJECT tn3270eClientResMapRowStatus

```
SYNTAX  INTEGER {
        active(1) -- subset of RowStatus
    }
```

MIN-ACCESS read-only

DESCRIPTION

"Write access is not required, and only one of the six enumerated values for the RowStatus textual convention need be supported, specifically: active(1)."

OBJECT tn3270eTcpConnId

MIN-ACCESS not-accessible

DESCRIPTION

"This object is not required of implementations that do not support assignment of unsigned integer connection identifiers."

OBJECT tn3270eConfSpinLock

MIN-ACCESS not-accessible

DESCRIPTION

"The use and support of this object is optional."

::= { tn3270eCompliances 1 }

-- units of conformance

tn3270eBasicGroup OBJECT-GROUP

```
OBJECTS {
    tn3270eSrvrConfInactivityTimeout,
    tn3270eSrvrConfActivityCheck,
    tn3270eSrvrConfActivityTimeout,
    tn3270eSrvrConfActivityInterval,
```

tn3270eSrvrFunctionsSupported,  
tn3270eSrvrConfAdminStatus,  
tn3270eSrvrConfOperStatus,  
tn3270eSrvrConfSessionTermState,  
tn3270eSrvrConfSrvrType,  
tn3270eSrvrConfContact,  
tn3270eSrvrConfRowStatus,  
tn3270eSrvrPortRowStatus,  
tn3270eSrvrStatsUpTime,  
tn3270eSrvrStatsMaxLus,  
tn3270eSrvrStatsInUseLus,  
tn3270eSrvrStatsSpareLus,  
tn3270eSrvrStatsMaxPtrs,  
tn3270eSrvrStatsInUsePtrs,  
tn3270eSrvrStatsSparePtrs,

tn3270eSrvrStatsInConnects,  
tn3270eSrvrStatsConnRejects,  
tn3270eSrvrStatsDisconnects,  
tn3270eSrvrStatsInOctets,  
tn3270eSrvrStatsOutOctets,  
tn3270eClientGroupSubnetMask,  
tn3270eClientGroupPfxLength,  
tn3270eClientGroupRowStatus,  
tn3270eSnaMapLocalName,  
tn3270eSnaMapPrimaryLuName,  
tn3270eConfSpinLock  
}  
STATUS current  
DESCRIPTION  
"This group is mandatory for all hosts supporting the  
TN3270E-MIB."  
 ::= { tn3270eGroups 1 }

tn3270eSessionGroup OBJECT-GROUP

OBJECTS {  
tn3270eResMapAddrType,  
tn3270eResMapAddress,  
tn3270eResMapPort,  
tn3270eResMapElementType,  
tn3270eResMapSscpSuppliedName,  
tn3270eTcpConnLastActivity,  
tn3270eTcpConnBytesIn,  
tn3270eTcpConnBytesOut,  
tn3270eTcpConnResourceElement,

```
tn3270eTcpConnResourceType,
tn3270eTcpConnDeviceType,
tn3270eTcpConnFunctions,
tn3270eTcpConnSrvrConfIndex
}
STATUS current
DESCRIPTION
  "This group is mandatory for all hosts supporting the
  TN3270E-MIB."
 ::= { tn3270eGroups 2 }
```

```
tn3270eResMapGroup OBJECT-GROUP
OBJECTS {
  tn3270eResPoolElementType,
  tn3270eResPoolRowStatus,
  tn3270eClientResMapRowStatus,
  tn3270eTcpConnId,
  tn3270eTcpConnClientIdFormat,
  tn3270eTcpConnClientId,
  tn3270eTcpConnTraceData,
  tn3270eTcpConnLogInfo,
  tn3270eTcpConnLuLuBindImage,
  tn3270eTcpConnSnaState,
  tn3270eTcpConnStateLastDiscReason
}
STATUS current
```

TN3270E Working Group

Expires July 1998

[Page 40]

---

Internet Draft

TN3270E MIB

January 1998

```
DESCRIPTION
  "This group is optional for all hosts supporting the
  TN3270E-MIB."
 ::= { tn3270eGroups 3 }
```

```
tn3270eHiCapacityGroup OBJECT-GROUP
OBJECTS {
  tn3270eSrvrStatsHCInOctets,
  tn3270eSrvrStatsHCOutOctets
}
STATUS current
DESCRIPTION
  "This group is optional for all hosts supporting the
  TN3270E-MIB. Its contents is a list of Counter64
  objects. An implementation that doesn't support
  these objects should return noSuchObject.
  Returning a zero is misleading. Support of these
  objects is recommended when the Counter32 versions
```

can potentially wrap too frequently.

The IF-MIB ([RFC 2233](#)) requires that the 64 bit versions of its counters be implemented when an interface can support rates around 20 million bits per second or greater. This implies a minimum wrap rate of just over 28 minutes. It is recommended that this guidance be used for determining when an implementation should implement these objects."

```
::= { tn3270eGroups 4 }
```

END

## [5.0](#) Security Considerations

Certain management information defined in this MIB may be considered sensitive in some network environments. Therefore, authentication of received SNMP requests and controlled access to management information SHOULD be employed in such environments. The method for this authentication is a function of the SNMP Administrative Framework, and has not been expanded by this MIB.

Several objects in this MIB allow write access or provide for row creation. Allowing this support in a non-secure environment can have a negative effect on network operations. It is RECOMMENDED that implementers seriously consider whether set operations or row creation should be allowed without providing, at a minimum, authentication of request origin. It is RECOMMENDED that without such support, the following objects be implemented as read-only:

- o tn3270eSrvrConfInactivityTimeout
- o tn3270eSrvrConfActivityCheck
- o tn3270eSrvrConfActivityTimeout
- o tn3270eSrvrConfActivityInterval
- o tn3270eSrvrConfAdminStatus
- o tn3270eSrvrConfSessionTermState

- o tn3270eSrvrConfContact
- o tn3270eClientGroupSubnetMask
- o tn3270eResPoolElementType
- o tn3270eSrvrConfRowStatus
- o tn3270eSrvrPortRowStatus
- o tn3270eClientGroupRowStatus
- o tn3270eResPoolRowStatus

o tn3270eResMapRowStatus

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## [7.0](#) Acknowledgments

This document is a product of the TN3270E Working Group.

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TN3270E Working Group

Expires July 1998

[Page 43]

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Internet Draft

TN3270E MIB

January 1998

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Appendix A. IANATn3270eTC-MIB

This appendix defines the current content of the IANATn3270eTC-MIB. This section should be removed from this document prior to its approval, at which time this MIB will be administered by IANA. IANATn3270eTC-MIB DEFINITIONS ::= BEGIN

IMPORTS

MODULE-IDENTITY, experimental  
FROM SNMPv2-SMI  
TEXTUAL-CONVENTION  
FROM SNMPv2-TC;

ianaTn3270eTcMib MODULE-IDENTITY

LAST-UPDATED "9802020000Z" -- February 2, 1998

ORGANIZATION "IANA"

CONTACT-INFO

"Internet Assigned Numbers Authority

Postal: USC/Information Sciences Institute  
4676 Admiralty Way, Marina del Rey, CA 90292

Tel: +1 310 822 1511

E-Mail: iana@isi.edu"

DESCRIPTION

"This module defines a set of textual conventions for use by the TN3270E-MIB and the TN3270E-RT-MIB.

Any additions or changes to the contents of this MIB module must first be discussed on the tn3270e working group list at: tn3270e@list.nih.gov and approved by one of the following TN3270E working group contacts:

Ed Bailey (co-chair) - elbailey@us.ibm.com  
Michael Boe (co-chair) - mboe@cisco.com  
Ken White - kennethw@vnet.ibm.com  
Robert Moore - remoore@us.ibm.com

The above list of contacts can be altered with the approval of the two co-chairs.

The Textual Conventions defined within this MIB have no security issues associated with them unless explicitly stated in their corresponding DESCRIPTION clause."

-- Need a real OID assigned  
 ::= { experimental 2001 }

IANATn3270Functions ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"This textual convention reflects the current set of TN3270 and TN3270E functions that can be negotiated

TN3270E Working Group

Expires July 1998

[Page 45]

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between a server and its client:

[RFC856](#)

transmitBinary The sender of this command REQUESTS permission to begin transmitting, or confirms that it will now begin transmitting characters which are to be interpreted as 8 bits of binary data by the receiver of the data.

[RFC820](#)

timeMark The sender of this command REQUESTS that the receiver of this command return a WILL TIMING-MARK in the data stream at the 'appropriate place' ...

[RFC885](#)

endOfRecord The sender of this command requests permission to begin transmission of the Telnet END-OF-RECORD (EOR) code when transmitting data characters, or the sender of this command confirms it

will now begin transmission of EORs with transmitted data characters.

[RFC1091](#)

terminalType      Sender is willing to send terminal type information in a subsequent sub-negotiation.

[RFC1041](#)

tn3270Regime      Sender is willing to send list of supported 3270 Regimes in a subsequent sub-negotiation.

[RFC1647](#)

scsCtlCodes      (Printer sessions only). Allows the use of the SNA Character Stream (SCS) and SCS control codes on the session. SCS is used with LU type 1 SNA sessions.

dataStreamCtl    (Printer sessions only). Allows the use of the standard 3270 data stream. This corresponds to LU type 3 SNA sessions.

responses        Provides support for positive and negative response handling. Allows the server to reflect to the client any and all definite, exception, and no response requests sent by the host application.

bindImage        Allows the server to send the SNA Bind image and Unbind notification to the client.

sysreq           Allows the client and server to emulate some (or all, depending on the server) of the functions of the SYSREQ key in an SNA environment."

```
SYNTAX            BITS {
                  transmitBinary(0), -- rfc856
                  timemark(1),      -- rfc860
                  endOfRecord(2),   -- rfc885
```

```
terminalType(3), -- rfc1091
tn3270Regime(4), -- rfc1041
scsCtlCodes(5),  -- rfc1647
dataStreamCtl(6), -- rfc1647
responses(7),    -- rfc1647
bindImage(8),    -- rfc1647
sysreq(9)        -- rfc1647
}
```

IANATn3270eClientType ::= TEXTUAL-CONVENTION  
    STATUS       current  
    DESCRIPTION

"The textual convention for defining the set of enumerations used by tn3270eTcpConnClientIdFormat in the TN3270E-MIB:

ENUMERATION	OCTETS	DESCRIPTION
none(0)	0	Not specified
other(1)	1..512	Implementation specific
ipv4(2)	6	4-octet IP Address plus 2-octet TCP Port
ipv6(3)	18	16-octet IPv6 Address plus 2-octet TCP Port
domainName(4)	1..512	The DNS name of a client.
truncDomainName(5)	1..512	The truncated DNS name of a client.
string(6)	1..512	Unknown Utf8String
certificate(7)	1..512	certificate
userId(8)	1..8	Client's userid
x509dn(9)	1..512	X.509 Distinguished Name

Representation of a certificate(7) may be lead to a security exposure and is NOT RECOMMENDED without adequate security."

```
SYNTAX      INTEGER {
                none(0),
                other(1),
                ipv4(2),
                ipv6(3),
                domainName(4),
                truncDomainName(5),
                string(6),
                certificate(7),
                userId(8),
                x509dn(9)
            }
```

IANAtn3270eLogData ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"An octet string representing log data as pertaining to either a TN3270 or TN3270E Session as reported from a

TN3270E Working Group

Expires July 1998

[Page 47]

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TN3270E Server. Log data is stored in an octet string in time order (from earliest to latest).

Each log element has the following form:

```

+-----+-----+-----+-----+
!length!type!TimeStamp! data      !
+-----+-----+-----+-----+

```

where

length = one-octet length of the data portion of the trace element, not including the length, type, and TimeStamp fields

type = one-octet code point characterizing the data.

TimeStamp = A 4 octet field that follows the TimeStamp (TimeTicks) textual convention as defined by [RFC 1903](#).

data = initial part of a PDU.

length type

0-250	x'00'	- unknown
0	x'01'	- inactivity timer expired
0	x'02'	- dynamic timer expired
0	x'03'	- actlu req
0	x'04'	- bind req
0	x'05'	- clear req
0	x'06'	- dactlu req
0	x'07'	- warm actpu req
0	x'08'	- sdt req
0	x'09'	- unbind req
0	x'0A'	- notify resp
0	x'0B'	- reply PSID neg rsp
0	x'0C'	- reply PSID pos rsp
0	x'0D'	- unbind rsp
0	x'0E'	- hierarchical reset
0	x'0F'	- client connect req
0	x'10'	- client disconnect req
0	x'11'	- timingmark received
0	x'12'	- flowControl timer expired
0	x'13'	- neg rsp to host
0	x'14'	- neg rsp from host
0	x'15'	- data contention
0	x'16'	- no buffer to send SNA data
0	x'17'	- receive response while inbound
0	x'18'	- client protocol error
0	x'19'	- badClientSequenceReceived
1-250	x'1A'	- utf8String
2	x'1B'	- hexCode, implementation dependent

log event entries have a minimum length of 6 octets. The zero-length string indicates that no log data is available."

SYNTAX OCTET STRING (SIZE (0..256))

END

