14. Application Management

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14.1 CHAPTER 14 CONTENTS

14.2 INTRODUCTION 介绍

The information in this chapter was relocated from Appendix C in the preceding (2.3.1) revision of the standard. It had previously been entitled Network Management, and has been renamed to more accurately describe the purpose of the messages described herein. This chapter does not specify a protocol for managing networks, à la TCP/IP SNMP. Rather, its messages provide a means to manage HL7-supporting applications over a network.

本章内容是由 V2.3.1 修订版的附录 C 承接过来的。以前，它的名字是网络管理，为了更加精确地表达本章内容，现更名为应用管理。本章没有为管理网络而指定一种专用的协议，如 TCP/IP，SNMP 等。但是，通过下述几种报文，即可实现管理 HL7 支持的网络应用的目的。

Because this chapter was originally named "Network Management," the messages and segments have labels beginning with the letter "N." These labels are retained for backward compatibility.

因为本章最早被称为网络管理（Network Management），所以下述报文和帧仍然以 N 为首字母来标识。这样标识的目的是为了保持向后的兼容性。

As a technical chapter, this information is now normative with respect to the HL7 standard. It is anticipated that additional messages and message content will be added to this chapter in the near future.

做为技术性的章节，本章提供的信息已是 HL7 标准的一部分。据预计，在不久的将来，更多的报文及报文定义会被加入到本章中来。

14.3 APPLICATION MANAGEMENT TRIGGER EVENTS AND MESSAGE DEFINITIONS

应用管理的触发事件和报文定义

14.3.1 NMQ - application management query message (event N01)

NMQ – 应用管理查询报文 (N01 事件)

The N01 event signifies when the NMQ (Application Management Query) message is used by one application to make application control-level requests for information or action to another application. It has three segments, the NCK segment (system clock), the NST segment (application control-level statistics), and the NSC segment (application control-level status change). At least one of these three segments must be present in the NMQ message. If a segment is present in the NMQ message, the corresponding segment needs to be present in the NMR message to return the requested data or status.

当某应用使用 NMQ (Application Management Query)来产生应用控制层请求，以获取另一个应用的信息或行为时，N01 事件发生了。它有三种帧：NCK 帧（系统时钟），NST 帧（应用控制层统计表），NSC 帧（应用控制层状态改变）。在 NMQ 报文中，至少存在三种帧中的一种。.如果一种帧出现在 NMQ 中，那么与其相应的帧就应该出现在 NMR 中，以返回所需的数据或状态。

a) The purpose of the NCK segment is to allow the various applications on the network to synchronize their system clocks (system date and time).

NCK 帧用于同步网络上的各种应用的系统时钟（包括日期和时间）。

b) The purpose of the NST segment is to allow application control-level statistical information to be passed between the various applications on the network. Although some of the fields in this segment refer to portions of lower level protocols, they contain information that can be used by system management applications monitoring the state of various networked applications. All the data fields in the NST (application control-level statistics) are optional, and the fields maintained by any application are to be negotiated at a particular site.

NST 帧用于网络上各种应用之间传递应用控制层统计信息. 虽然这种帧中的某些字段引用了低层协议中的一部分，但是对于系统管理应用来说，它们包含了监控各种网络应用状态所要用到的信息。在 NST 中,所有的数据字段都是可选的，而且在一个特定的站点，那些任何应用都可维护的字段是可以通过协商解决的。

c) The purpose of the NSC segment is to request the start-up, shut-down, and/or migration (to a different CPU or file-server/file-system) of a particular application.

NSC 帧用来请求一个特定应用的启动，关闭，和/或迁移（到一个不同的 CPU 或文件服务器/文件系统）.

NMQ^N01^NMQ_N01	Application Management Query	Chapter
MSH	Message Header	2
[QRD	Query Definition	5
[QRF]]	Query Filter	5
{[NCK]	System Clock	14
[NST]	Application control-level Statistics	14
[NSC]}	Application Status Change	14

NMQ^N01^NMQ_N01	应用管理查询	章
MSH	报头	2
[QRD	查询定义	5
[QRF]]	查询过滤器	5
{[NCK]	系统时钟	14
[NST]	应用控制层统计表	14
[NSC]}	应用状态改变	14

NMR^N01^NMR_N01	Application Management Response	Chapter
MSH	Message Header	2
MSA	Message Acknowledgement	2
[ERR]	Error	2
[QRD]	Query Definition	5
{[NCK]	System Clock	14
[{NTE}]	Notes and Comments	2
[NST]	Application control-level Statistics	14
[{NTE}]	Notes and Comments	2
[NSC]	Application Status Change	14
[{NTE}] }	Notes and Comments	2

NMR^N01^NMR_N01	应用管理响应	章
MSH	报头	2
MSA	报文响应	2
[ERR]	错误	2
[QRD]	查询定义	5
{[NCK]	系统时钟	14
[{NTE}]	说明与注释	2
[NST]	应用控制层统计表	14
[{NTE}]	说明与注释	2
[NSC]	应用状态变化	14
[{NTE}] }	说明与注释	2

14.1.1.1 QRD use notes

QRD 使用说明

This segment is defined in Chapter 5. It is optional in the NMQ message. If present, *QRD-1-Query date/time, QRD-2-Query format code, QRD-3-Query priority, QRD-9-What subject filter,* and *QRD-12-What department data code* should be used.

在第五章中，对这种帧进行了定义。 在 NMQ 报文中，它是一个可选项。 如果使用 QRD，则下述内容将被使用：*QRD-1-查询的日期/时间*， *QRD-2-查询格式代码*， *QRD-3-查询优先级*， *QRD-9-主题过滤器*， *QRD-12-部门数据代码*。

Suggested values for *QRD-9-What subject filter* are NCK, NST, or NSC. If NSC is used, then suggested values for *QRD-12-what department data code* should be taken from the user-defined table for *NSC-1-Application change type.*

对 QRD-9-主题过滤器 的建议使用值为 NCK, NST, 或 NSC。如果其取值为 NSC, 那么我们建议 *QRD-12-部门数据代码*从用户为 *NSC-1-应用改变类型* 定义的表中取值。

Since these are application management transactions, *QRD-2-Query format code* should be **R** (record oriented), *QRD-3-Query priority* should be **I** (immediate).

既然这些都是应用管理事务, 那么 *QRD-2-查询格式代码* 就应该是 **R** (记录定向), *QRD-3-查询优先级* **I** (立即).

The other fields in this segment are optional.

此帧的其它字段是可选的。

14.1.2 NMD - application management data message (event N02)

NMD – 应用管理数据报文 (N02 事件)

The N02 event signifies when an unsolicited update (UU) Application Management Data message (NMD) is created by on application to transmit application management information to other applications. In this case, the initiating application sends an NMD message as an unsolicited update (UU) containing application management information to a receiving application, which responds with a generic acknowledgement message (ACK).

当某应用产生一个主动更新的应用管理数据报文，以传递应用管理信息给其它应用时， N02 事件就发挥作用了。在这种情况下， NMD 报文作为包含应用管理信息的主动更新，由发起会话的应用发送给处于接收状态的应用。收到此报文的应用发回一个一般确认报文。

For example, an application going down for backups (or starting up again after backups) might issue such a message to one or more other applications. An application switching to another CPU or file-server may also need to use this transaction to notify other systems.

例如，为了备份数据，需要关闭一个应用（或备份数据之后，重新开启应用），它就会发送一个报文给一个或多个其它应用。又如，当一个应用转换到另一个 CPU 或文件服务器时，它也需要使用这种机制来通知另外的应用系统。

NMD^N02^NMD_N02	Application Management Data	Chapter
MSH	Message Header	2
{		
[NCK	System Clock	14
[{NTE}]	Notes and Comments	2
]		
[NST	Application control-level Statistics	14
[{NTE}]	Notes and Comments	2
]		
[NSC	Application Status Change	14
[{NTE}]	Notes and Comments	2
]		
}		

NMD^N02^NMD_N02	应用管理数据	章
MSH	报头	2
{		
[NCK	系统时钟	14
[{NTE}]	说明与注释	2
]		
[NST	应用控制层统计表	14
[{NTE}]	说明与注释	2
]		

NMD^N02^NMD_N02	应用管理数据	章
[NSC	应用状态变化	14
[{NTE}]	说明与注释	2
]		
}		

ACK^N02	Generic Acknowledgement	Chapter
MSH	Message Header	2
MSA	Message Acknowledgement	2

ACK^N02	一般确认	Chapter
MSH	报头	2
MSA	确认报文	2

14.2 MESSAGE SEGMENTS

消息帧

14.2.1 NCK - system clock segment

NCK – 系统时钟帧

The NCK segment is used to allow the various applications on the network to synchronize their system clocks (system date and time).

NCK 帧用于同步网络上的各种应用的系统时钟（包括日期和时间）。

HL7 Attribute Table – NCK – System clock

SEQ	LEN	DT	R/O	RP/#	TBL#	ITEM#	ELEMENT NAME
1	26	TS	R			01172	System Date/Time

HL7 属性表 – NCK – 系统时钟

SEQ	LEN	DT	R/O	RP/#	TBL#	ITEM#	ELEMENT NAME
1	26	TS	R			01172	系统日期/时间

14.2.1.0 NCK field definitions

NCK 字段定义

14.2.1.1 NCK-1 System date/time (TS) 01172

NCK-1 系统日期/日期 (TS) 01172

Definition: This field contains an HL7 time stamp. It is strongly recommended that seconds be included. If the message contains an NST or NSC segment, the NCK segment is optional. If the NCK segment is present, this field is required. If present in the NMQ message, or the unsolicited NMD message, it contains the system date/time of the sending system. If present in the NMR response message, it contains the responding system's date/time.

定义: 这个字段包含一个 HL7 的时间戳. 我们强烈建议它应该含有秒值。如果报文中存在 NST 或 NSC 帧，那么 NCK 帧是可选的。但是，一旦 NCK 帧出现，本字段就是必需的。如果本字段出现在 NMQ 报文中，或出现在 NMD 报文中，那么本字段的值就是发送报文系统的日期/时间。

14.2.1.2 NCK use notes

NCK 使用说明

If this message is to be used to automatically reset/correct system clocks, it is recommended that the system or administrative personnel initiating the NMQ with the NCK segment have the authority to correct the clock (system date and time) for the other systems on the network. This is important in order to avoid the obvious confusion of multiple systems attempting to resynchronize each other's clocks.

如果一个报文要被用于自动重置/修正系统时钟，我们建议：系统或用含有 NCK 的帧发起 NMQ 报文的管理员，应该有修正网络上其它系统时钟（系统日期和时间）的授权。这很重要，因为这样做能避免多个系统都试图同步其它系统的时钟而造成的混乱。

If this message is used only to gather information on the various systems' clocks, it is still important for an administrative procedure to be worked out to avoid conflicts when resetting clocks.

即使一个报文仅仅被用来获得多个系统时钟的信息，当重置时钟时，对于要避免冲突的管理进程来说，这样的权利仍然很重要。

14.2.2 NSC – Application status change segment

NSC – 应用状态变化帧

The NSC segment is used to inform (NMR query response) or announce (NMD unsolicited update) the start- up, shut- down, and/or migration (to a different cpu or file- server/file- system) of a particular application.

NSC 帧用来告诉（NMR 查询应答）或宣告（NMD 主动更新）一个特定应用的启动，关闭，和/或迁移（到一个不同的 CPU 或文件服务器/文件系统）。

HL7 Attribute Table – NSC – Application status change

SEQ	LEN	DT	R/O	RP/#	TBL#	ITEM#	ELEMENT NAME
1	4	IS	R		0409	01188	Application Change Type
2	30	ST				01189	Current CPU
3	30	ST				01190	Current Fileserver
4	30	HD				01191	Current Application
5	30	HD				01192	Current Facility

SEQ	LEN	DT	R/O	RP/#	TBL#	ITEM#	ELEMENT NAME
6	30	ST				01193	New CPU
7	30	ST				01194	New Fileserver
8	30	HD				01195	New Application
9	30	HD				01196	New Facility

HL7 属性表 – NSC –应用状态变化

SEQ	LEN	DT	R/O	RP/#	TBL#	ITEM#	ELEMENT NAME
1	4	IS	R		0409	01188	应用变化状态
2	30	ST				01189	当前 CPU
3	30	ST				01190	当前文件服务器
4	30	HD				01191	当前应用
5	30	HD				01192	当前设备
6	30	ST				01193	新 CPU
7	30	ST				01194	新文件服务器
8	30	HD				01195	新应用
9	30	HD				01196	新设备

14.2.2.0 NSC field definitions

NSC 字段定义

14.2.2.1 NSC-1 Application change type (IS) 01188

NSC-1 应用变化类型 (IS) 01188

Definition: This field contains the type of change being requested (if NMR query) or announced (if NMD unsolicited update). Refer to *User-defined Table 0409 - Application change type* for suggested values. It is assumed that "new" version starts up with no loss or duplication of data as old one is shutting down (if possible).

定义：本字段包含被请求（如果 NMR 查询）或被宣告（如果 NMD 主动更新）的变化类型。建议值见：用户定义表 0409- 应用变化类型。它假设当应用关闭（如果可能），新版本在没有丢失或复制数据的情况下启动。

User-defined Table 0409 - Application change type

Value	Description
SU	Start up
SD	Shut down
M	Migrates to different CPU

用户定义表 0409 – 应用变化类型

Value	描述
SU	启动
SD	关闭

Value	描述
M	迁移到不同的 CPU

14.2.2.2 NSC-2 Current CPU (ST) 01189

NSC-2 当前 CPU (ST) 01189

Definition: This field contains a site-specific name for the current CPU.

定义：本字段包含当前 CPU 的具体位置名称。

14.2.2.3 NSC-3 Current fileserver (ST) 01190

NSC-3 当前文件服务器 (ST) 01190

Definition: This field contains a site- specific name for the current fileserver or file system used by this application.

定义：本字段包含这个应用使用的当前文件服务器或文件系统的具体位置名称。

14.2.2.4 NSC-4 Current application (HD) 01191

NSC-4 当前应用 (HD) 01191

```
Components:  <namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>

结构:  <命名空间 ID (IS)> ^ <通用 ID (ST)> ^ <通用 ID 类型 (ID)>
```

Definition: This field contains a site-specific name used to identify the "current" application process for interfacing with lower level protocols. To be used in conjunction with the sending/receiving system and facility values in the MSH. Entirely site-defined. *User-defined Table 0361-Sending/receiving application* is used as the user-defined table of values for the first component.

定义：本字段包含用于区分当前应用过程与低层协议的具体位置名称。 需与收/发系统和 MSH 中的设备值共同使用。完全的位置说明。 *用户定义表 0361-发/收应用* 被用作第一部分值的用户定义表。

Note:	By site agreement, implementors may continue to use *User-defined Table 0300 – Namespace ID* for the first component.

说明:	按照站点协议,实现者可能继续使用*用户定义表 0300 – 命名空间 ID* 作为第一部分。

14.2.2.5 NSC-5 Current facility (HD) 01192

NSC-5 当前设备 (HD) 01192

```
Components:  <namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>

结构:  <命名空间 ID (IS)> ^ <通用 ID (ST)> ^ <通用 ID 类型 (ID)>
```

Definition: This field contains a site-specific name for the current facility used by this application. To be used in conjunction with the values for the sending/receiving system and facility values in the MSH. This field further describes the current application, *NSC-5-current application*. With the promotion of this field to an HD data type, the usage has been broadened to include not just the current facility but other organizational entities such as a) the organizational entity responsible for current application; b) the responsible unit; c) a product or vendor's identifier, etc. Entirely site- defined. *User-defined Table 0362 – Sending/receiving facility* is used as the HL7 identifier for the user-defined table of values for the first component.

定义：本字段包含这个应用使用的当前设备的具体位置名称。需与发/收系统的值和 MSH 中的设备值共同使用。本字段进一步描述了当前应用， *NSC-5-当前应用*. 随着本字段的数据类型扩充至 HD， 其应用范围也拓宽了，不仅包括当前设备，而且包括其它组织实体，例如： a) 负责当前应用的组织实体 b)责任单元; c)产品或生产厂家的标识等等。完全的位置定义。*用户定义表 0362 –发/收设备* 被用作 HL7 的第一部分值的用户定义表的标识符。

Note:	By site agreement, implementors may continue to use *user-defined table 0300 – Namespace ID* for the first component.

说明:	按照站点协议,实现者可能继续使用*用户定义表 0300 – 命名空间 ID* 作为第一部分。

14.2.2.6 NSC-6 New CPU (ST) 01193

NSC-6 新 CPU (ST) 01193

Definition: This field contains a site-specific name for the new CPU.

定义：本字段包含新 CPU 的具体位置名称。

14.2.2.7 NSC-7 New fileserver (ST) 01194

NSC-7 新文件服务器 (ST) 01194

Definition: This field contains a site-specific name for the new fileserver or file system used by this application.

定义：本字段包含这个应用使用的新文件服务器或文件系统的具体位置名称。

14.2.2.8 NSC-8 New application (HD) 01195

NSC-8 新应用 (HD) 01195

```
Components:  <namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>

结构:  <命名空间 ID (IS)> ^ <通用 ID (ST)> ^ <通用 ID 类型 (ID)>
```

Definition: This field contains a site-specific name used to identify "new" application processes for interfacing with lower level protocols. To be used in conjunction with the sending/receiving system and facility values in the MSH. Entirely site-defined. *User-defined Table 0361-Sending/receiving application* is used as the user-defined table of values for the first component.

定义：本字段包含用于区分新的应用过程与低层协议的具体位置名称。 需与收/发系统和 MSH 中的设备值共同使用。完全的位置定义。*用户定义表 0361-发/收应用* 被用作第一部分值的用户定义表。

Note:	By site agreement, implementors may continue to use *user-defined table 0300 – Namespace ID* for the first component.

说明:	按照站点协议,实现者可能继续使用*用户定义表 0300 – 命名空间 ID* 作为第一部分。

14.2.2.9 NSC-9 New facility (HD) 01196

NSC-9 New facility (HD) 01196

```
Components:  <namespace ID (IS)> ^ <universal ID (ST)> ^ <universal ID type (ID)>

结构:  <命名空间 ID (IS)> ^ <通用 ID (ST)> ^ <通用 ID 类型 (ID)>
```

Definition: This field contains a site-specific name for the new facility used by this application. To be used in conjunction with the values for the sending/receiving system and facility values in the MSH.

定义：本字段包含这个应用所使用的新设备的具体位置名称。需与收/发系统和 MSH 中的设备值共同使用。

This field further describes the new application, *NSC-8-new application*. With the promotion of this field to an HD data type, the usage has been broadened to include not just the new facility but other organizational entities such as a) the organizational entity responsible for new application; b) the responsible unit; c) a product or vendor's identifier, etc. Entirely site- defined. *User-defined Table 0362 – Sending/receiving facility* is used as the HL7 identifier for the user-defined table of values for the first component.

本字段进一步描述了新应用, *NSC-8 新应用*. 随着本字段的数据类型扩充至 HD， 其应用范围也拓宽了，不仅包括新设备，而且还包括其它组织实体，例如：a) 负责新应用的组织实体 b)责任单元; c) 产品或生产厂家的标识等等。完全的位置定义。*用户定义表 0362 –发/收设备* 被用作 HL7 的第一部分值的用户定义表的标识符。

Note:	By site agreement, implementors may continue to use *user-defined table 0300 – Namespace ID* for the first component.

说明:	按照站点协议,实现者可能继续使用*用户定义表 0300 – 命名空间 ID* 作为第一部分。

14.2.2.10 NSC use notes

NSC 使用说明

Fields 2-9. These are not applicable ("n/a") when the type of change being requested or reported is start-up or shut-down. If the change is of type "M", at least one of fields 2-5 must be different from its corresponding field in range 6-9.

当被请求或报告的类型变化启动或关闭时，字段 2-9 是不可应用的（“n/a”）。如果变化是类型 "M"，那么字段 2-5 中，至少有一个必须与其在字段 6-9 中相应的字段不同。

Fields 4-5, 8-9. See definitions for the MSH, message header segment, in Chapter 2, (Control Section), for fields 3-4, for system and facility. "Application" is available for interfacing with lower level protocols. "Facility" is entirely site-defined.

字段 4-5, 8-9，见第二章对 MSH 的定义中的报头帧，以及对字段 3-4、系统 和设备的定义。"应用" 提供给 对低层协议的界面。"设备"是完全站点定义的。

Fields 2-3, 6-7. Entirely site-defined.

字段 2-3, 6-7 是完全的站点定义。

14.2.3 NST – Application control-level statistics segment

NST – 应用控制层统计帧

The NST segment allows application control-level statistical information to be passed between the various systems on the network. Some fields in this segment refer to portions of lower level protocols; they contain information that can be used by application management applications monitoring the state of various network links.

在网络上的不同系统之间，应用控制层统计帧实现了应用控制层统计信息的传递。这些帧中的一些字段引用了低层协议的一部分；它们包含了应用管理所要用到的多个网络连接状态的监控信息。

HL7 Attribute Table – NST – Application control level statistics

SEQ	LEN	DT	R/O	RP/#	TBL#	ITEM#	ELEMENT NAME
1	1	ID	R		0136	01173	Statistics Available
2	30	ST				01174	Source Identifier
3	3	ID			0332	01175	Source Type
4	26	TS				01176	Statistics Start
5	26	TS				01177	Statistics End
6	10	NM				01178	Receive Character Count
7	10	NM				01179	Send Character Count
8	10	NM				01180	Messages Received
9	10	NM				01181	Messages Sent
10	10	NM				01182	Checksum Errors Received
11	10	NM				01183	Length Errors Received
12	10	NM				01184	Other Errors Received
13	10	NM				01185	Connect Timeouts
14	10	NM				01186	Receive Timeouts
15	10	NM				01187	Application control-level Errors

HL7 属性表 – NST – 应用控制层统计表

SEQ	LEN	DT	R/O	RP/#	TBL#	ITEM#	元素名称
1	1	ID	R		0136	01173	可提供的统计表
2	30	ST				01174	源标识符

SEQ	LEN	DT	R/O	RP/#	TBL#	ITEM#	元素名称
3	3	ID			0332	01175	源类型
4	26	TS				01176	统计表开始
5	26	TS				01177	统计表结束
6	10	NM				01178	接收字符计数器
7	10	NM				01179	发送字符计数器
8	10	NM				01180	接收报文
9	10	NM				01181	发送报文
10	10	NM				01182	接收检测到的错误和
11	10	NM				01183	接收到的错误长度
12	10	NM				01184	接收到的其它错误
13	10	NM				01185	连接超时
14	10	NM				01186	接收超时
15	10	NM				01187	应用控制层错误

14.2.3.0 NST field definitions

NST 字段定义

14.2.3.1 NST-1 Statistics available (ID) 01173

NST-1 可提供的统计表 (ID) 01173

Definition: This field indicates the availability of statistics. Refer to *HL7 table 0136 - Yes/no indicator* for valid values.

定义：本字段指出了可以使用的统计报表。参考 *HL7 表 0136 – 是/否 指示器* 寻求有效值。

N - the responding application does not keep any statistics. If the value "N" is specified, the response message is used to signify to the initiating application that the communication link between the initiating application and the responding application is operational (and fields 2-15 are empty in the response message).

N – 相应的应用不保存任何统计表. 如果 指定了值"N"，那么应答报文用来表示发起的应用，发起应用与应答应用之间的通讯连接是可选的（而且在应答报文中，字段 2-15 为空）。

Y - the responding application does keep statistics, fields 4 and 5 are required, (and the response message contains one or more non-null fields in the range 2-3, 6-15).

Y - 相应的应用保存统计表, 要求有字段 4 和字段 5 (在字段 2-3 和字段 6-15 的范围内，应答报文包含一个或多个非空字段)。

14.2.3.2 NST-2 Source identifier (ST) 01174

NST-2 源标识符 (ST) 01174

Definition: This field identifies a particular lower level link (e.g., a port number).

定义：本字段识别一个具体的低层连接(例如一个端口号)。

14.2.3.3 NST-3 Source type (ID) 01175

NST-3 源类型 (ID) 01175

Definition: This field identifies (in certain systems) whether a lower level source identifier is an initiate or accept type. *Refer to HL7 Table 0332 - Source type* for valid values.

定义：本字段表明（在某些系统中）一个低层源标识符是否为发起或接受类型。参考 *HL7 表 0332 –源类型* 寻求有效值。

Table 0332 –Source type

Value	Description
I	Initiate
A	Accept

表 0332 –源类型

Value	描述
I	发起
A	接受

14.2.3.4 NST-4 Statistics start (TS) 01176

NST-4 统计开始 (TS) 01176

Definition: This field contains the date/time stamp of the start of the collection of the statistics reported in fields 6-15 of this segment. It is strongly recommended that this value include seconds.

定义：此帧字段 6-15 中统计报告的搜集，其开始时间存于本字段。我们强烈建议此值应包含秒值。

14.2.3.5 NST-5 Statistics end (TS) 01177

NST-5 统计结束 (TS) 01177

Definition: This field contains the date/time stamp of the end of the statistics collection period reported in fields 6-15 of this segment. It is strongly recommended that this value include seconds.

定义：此帧字段 6-15 中统计报告的搜集，其结束时间存于本字段。我们强烈建议此值应包含秒值。

14.2.3.6 NST-6 Receive character count (NM) 01178

NST-6 接收字符数 (NM) 01178

Definition: This field contains the number of characters received.

定义：本字段包含已接收的字符数。

14.2.3.7 NST-7 Send character count (NM) 01179

NST-7 发送字符数 (NM) 01179

Definition: This field contains the number of characters sent.

定义：本字段包含已发送的字符数。

14.2.3.8 NST-8 Messages received (NM) 01180

NST-8 接收报文数 (NM) 01180

Definition: This field contains the number of messages received.

定义： 本字段包含已接收的报文数。

14.2.3.9 NST-9 Messages sent (NM) 01181

NST-9 发送报文数 (NM) 01181

Definition: This field contains the number of messages sent.

定义：本字段包含已发送的报文数。

14.2.3.10 NST-10 Checksum errors received (NM) 01182

NST-10 接收检查和错误数 (NM) 01182

Definition: This field contains the number of messages received with checksum errors.

定义： 本字段包含已接收的检查和错误的报文数。

14.2.3.11 NST-11 Length errors received (NM) 01183

NST-11 接收字长错误数 (NM) 01183

Definition: This field contains the number of messages received with length errors.

定义： 本字段包含已接收的字长错误的报文数。

14.2.3.12 NST-12 Other errors received (NM) 01184

NST-12 接收其它错误数 (NM) 01184

Definition: This field contains the number of "other" invalid messages received (excluding length and checksum errors).

定义： 本字段包含已接收的其它无效报文数（除字长及检查和错误）。

14.2.3.13 NST-13 Connect timeouts (NM) 01185

NST-13 连接超时数 (NM) 01185

Definition: This field contains the number of connect timeout errors.

定义： 本字段包含连接超时错误数。

14.2.3.14 NST-14 Receive timeouts (NM) 01186

NST-14 接收超时数 (NM) 01186

Definition: This field contains the number of timeouts while waiting for a response to an initiated message.

定义： 本字段包含等待对发起报文的回复的超时数。

14.2.3.15 NST-15 Application control-level errors (NM) 01187

NST-15 应用控制层错误 (NM) 01187

Definition: This field contains the number of application control-level errors in response to an initiated message.

定义： 本字段包含回复发起报文的应用控制层错误数。

14.2.3.16 NST use notes

NST 使用说明

Fields 2-15. These are all marked optional since the statistics kept on a particular link and negotiated between the two systems in question will vary. Not all values will apply to each system. Some values are concerned with the type of port, and some values pertain to the lower level protocol.

保持特定连接、两个存在问题的系统之间的协商，使统计表是变化的，这就使字段 2-15 被标注成可选的。不是所有的值都应用到各个系统。一些值与端口类型相关联，而另一些则与低层协议有关。

14.3 OUTSTANDING ISSUES

重要的问题

None.

无。