INTERNATIONAL STANDARD ISO/IEC 9506-2:1990
TECHNICAL CORRIGENDUM 1

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Industrial automation systems — Manufacturing Message Specification —

Part 2:
Protocol specification

TECHNICAL CORRIGENDUM 1

Systèmes d'automatisation industrielle — Spécification de messagerie industrielle —

Partie 2: Spécification de protocole

RECTIFICATIF TECHNIQUE 1

Technical corrigendum 1 to International Standard ISO/IEC 9506-2:1990 was prepared by Technical Committee ISO/TC 184, *Industrial automation systems and integration*, Subcommittee SC 5, *Architecture and communications*.

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Subclause 5.14

In the note, lines 1 and 2, change

"this part of this part of"

to

"this part of"

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Subclause 6.3.1.2

In item a) in the third line change "error class SERVICE" to "error class SERVICE-PREEMPT".

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In item b) in the second line change

"error class SERVICE" to "error class SERVICE-PREEMPT".

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Clause 7

Change

```
{ iso standard 8650 abstract-syntax(2) acse-pdi(1) }
```

to

```
{ joint-iso-ccitt association-control(2) abstract(1) }
```

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Subclause 7.1

Replace the comment line in the Confirmed-RequestPDU production. The protocol in this subclause should now read:

```
Confirmed-RequestPDU ::= SEQUENCE {
  invokeID              Unsigned32,
  listOfModifier        SEQUENCE OF Modifier OPTIONAL,
  ConfirmedServiceRequest,
  [79] CS-Request-Detail   OPTIONAL,
    -- shall not be transmitted if value is the value
    -- of a tagged type derived from NULL
  }
```

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Subclause 7.1

At the end of the subclause, that is, immediately preceding 7.2, add the following note:

NOTE — The intent of the comment in the Confirmed-RequestPDU production is to preclude the transmission of the CS-Request-Detail field for all occurrences in the abstract syntax defined in this part of ISO/IEC 9506. This is done by assigning the NULL type to all the types referenced in the CS-Request-Detail type. (See the type definitions in 7.5.2 and in clause 19.) MMS Companion Standards may also preclude the transmission of this field either by defining the appropriate type to be NULL, similarly to the definitions in clause 19, or by selecting a NULL choice from a CHOICE type.

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Subclause 7.2

Replace the comment line in the Unconfirmed-PDU production.
The protocol in this subclause should now read:

```
Unconfirmed-PDU ::= SEQUENCE {
  UnconfirmedService,
  [79] CS-Unconfirmed-Detail    OPTIONAL,
    -- shall not be transmitted if value is the value
    -- of a tagged type derived from NULL
  }
```

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Subclause 7.2

At the end of the subclause, that is immediately preceding 7.3, add the following note:

NOTE — The intent of the comment in the Unconfirmed-PDU production is to preclude the transmission of the CS-Unconfirmed-Detail field for all occurrences in the abstract syntax defined in this part of ISO/IEC 9506. This is done by assigning the NULL type to all the types referenced in the CS-Unconfirmed-Detail type. (See the type definitions in 7.5.3 and in clause 19.) MMS Companion Standards may also preclude the transmission of this field either by defining the appropriate type to be NULL, similarly to the definitions in clause 19, or by selecting a NULL choice from a CHOICE type.

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Subclause 7.3

Replace the comment line in the Confirmed-ResponsePDU production.
The protocol in this subclause should now read:

```
Confirmed-ResponsePDU ::= SEQUENCE {
  invokeID              Unsigned32,
  ConfirmedServiceResponse,
  [79] CS-Response-Detail  OPTIONAL,
    -- shall not be transmitted if value is the value
    -- of a tagged type derived from NULL
  }
```

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Subclause 7.3

At the end of the subclause, that is immediately preceding 7.4, add the following note:

NOTE — The intent of the comment in the Confirmed-ResponsePDU production is to preclude the transmission

of the CS-Response-Detail field for all occurrences in the abstract syntax defined in this part of ISO/IEC 9506. This is done by assigning the NULL type to all the types referenced in the CS-Response-Detail type. (See the type definitions in 7.5.4 and in clause 19.) MMS Companion Standards may also preclude the transmission of this field either by defining the appropriate type to be NULL, similarly to the definitions in clause 19, or by selecting a NULL choice from a CHOICE type.

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Subclause 7.6.2

In the definition of Identifier, change "__" to "_" (only a single underscore)

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Subclause 8.2

Remove 'akec' named bit from the ParameterSupportOptions production.
This production should now read:

```
ParameterSupportOptions  ::= BIT STRING {
 str1    (0),
 str2    (1),
 vnam    (2),
 valt    (3),
 vadr    (4),
 vsca    (5),
 tpy     (6),
 vlis    (7),
 real    (8),
 --          bit 9 reserved for future definition
 cei     (10)
 }
```

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Subclause 10.8

Replace the line

```
listOfCapabilities  [1] IMPLICIT SEQUENCE OF VisibleString,
```

with

```
listOfCapabilities  [1] IMPLICIT SEQUENCE OF VisibleString OPTIONAL,
```

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Subclause 10.8.1

Add the following text at the end of the present text:

If the List Of Capabilities parameter is present in the service request, and the parameter specifies an empty list, a SEQUENCE OF VisibleString with zero elements shall be transmitted; if the parameter is not present in the service request, this field shall not be transmitted.

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Subclause 10.10

Replace the line

```
listOfCapabilities    [1] IMPLICIT SEQUENCE OF VisibleString,
```

with

```
listOfCapabilities    [1] IMPLICIT SEQUENCE OF VisibleString OPTIONAL,
```

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Subclause 10.10.1

Add the following text at the end of the present text:

If the List Of Capabilities parameter is present in the service request, and the parameter specifies an empty list, a SEQUENCE OF VisibleString with zero elements shall be transmitted; if the parameter is not present in the service request, this field shall not be transmitted.

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Subclause 12.4.2

Add an ASN.1 comment following the unsigned choice. That line should now read:

```
unsigned    [6] IMPLICIT INTEGER, -- shall not be negative
```

Add an ASN.1 comment following the bcd choice. That line should now read:

```
bcd         [13] IMPLICIT INTEGER, -- shall not be negative
```

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Subclause 12.4.3

Replace the last line of the protocol with the following:

```
object-non-existent    (10), -- OBJECT-NON-EXISTENT
object-value-invalid   (11)  -- OBJECT-VALUE-INVALID
```

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Subclause 15.8

Replace the comment line in the DefineEventAction-Request production. The protocol in this subclause should now read:

```
DefineEventAction-Request ::= SEQUENCE {
   eventActionname           [0] ObjectName,
   listOfModifier            [1]  IMPLICIT SEQUENCE  OF Modifier OPTIONAL,
   confirmedServiceRequest   [2] ConfirmedServiceRequest,
   cs-extension              [79] CS-Request-Detail  OPTIONAL,
     -- shall not be transmitted if value is the value
     -- of a tagged type derived from NULL
   }
```

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Subclause 15.8.1

At the end of the subclause add the following note:

NOTE — The intent of the comment in the DefineEventAction-Request production is to preclude the transmission of the CS-Request-Detail field for all occurrences in the abstract syntax defined in this part of ISO/IEC 9506. This is done by assigning the NULL type to all the types referenced in the CS-Request-Detail type. (See the type definitions in 7.5.2 and in clause 19.) MMS Companion Standards may also preclude the transmission of this field either by defining the appropriate type to be NULL, similarly to the definitions in clause 19, or by selecting a NULL choice from a CHOICE type.

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Subclause 15.10

Replace the comment line in the GetEventActionAttributes-Response production. The protocol in this subclause should now read:

```
GetEventActionAttributes-Response ::= SEQUENCE {
   mmsDeletable              [0] IMPLICIT BOOLEAN DEFAULT FALSE,
   listOfModifier            [1] IMPLICIT SEQUENCE OF Modifier,
   confirmedServiceRequest   [2] ConfirmedServiceRequest,
   cs-extension              [79] CS-Request-Detail OPTIONAL,
   -- shall not be transmitted if value is the value
   -- of a tagged type derived from NULL
   }
```

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Subclause 15.10.2

At the end of the subclause add the following explanatory note:

> NOTE — The intent of the comment in the GetEventActionAttributes-Response production is to preclude the transmission of the CS-Response-Detail field for all occurrences in the abstract syntax defined in this part of ISO/IEC 9506. This is done by assigning the NULL type to all the types referenced in the CS-Response-Detail type. (See the type definitions in 7.5.2 and in clause 19.) MMS Companion Standards may also preclude the transmission of this field either by defining the appropriate type to be NULL, similarly to the definitions in clause 19, or by selecting a NULL choice from a CHOICE type.

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Subclause 15.12

Delete the last line of the DefineEventEnrollment-Request.
The production should read:

```
DefineEventEnrollment-Request ::= SEQUENCE {
  eventEnrollmentName        [0] ObjectName,
  eventConditionName         [1] ObjectName,
  eventConditionTransitions  [2] IMPLICIT Transitions,
  alarmAcknowledmentRule     [3] IMPLICIT AlarmAckRule,
  eventActionName            [4] ObjectName OPTIONAL,
  clientApplication          [5] ApplicationReference OPTIONAL
  }
```

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Subclause 15.14

Replace the comment line following the item tagged [9] in the EventEnrollment production with:

```
-- shall not be transmitted if the value is NULL
```

Delete the acknowledgementEventCondition element from the sequence.

The protocol in this subclause should now read:

```
EventEnrollment  ::= SEQUENCE {
  eventEnrollmentName              [0] ObjectName,
  eventConditionName               [1] CHOICE {
    eventCondition                     [0] ObjectName,
    undefined                          [1] IMPLICIT NULL
    },
  eventActionName                  [2] CHOICE {
    eventAction                        [0] ObjectName,
    undefined                          [1] IMPLICIT NULL
    }  OPTIONAL,
```

```
    clientApplication               [3] ApplicationReference OPTIONAL,
    mmsDeletable                    [4] IMPLICIT BOOLEAN DEFAULT FALSE,
    enrollmentClass                 [5] IMPLICIT EE-Class,
    duration                        [6] IMPLICIT EE-Duration DEFAULT current,
    invokeID                        [7] IMPLICIT Unsigned32 OPTIONAL,
    remainingAcceptableDelay        [8] IMPLICIT Unsigned32 OPTIONAL,
    additionalDetail                [9] IMPLICIT EE-Additional-Detail
                                            OPTIONAL
      -- shall not be transmitted if the value is NULL
    }
```

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Subclause 15.14.2.1.4

At the end of the subclause add the following note:

> NOTE — The intent of the comment in the EventEnrollment production is to preclude the transmission of the EE-Additional-Detail field for all occurrences in the abstract syntax defined in this part of ISO/IEC 9506. This is done by assigning the NULL type to the EE-Additional-Detail type. (See the type definition in clause 19.) MMS Companion Standards may also preclude the transmission of this field either by defining the EE-Additional-Detail type to be NULL, similarly to the definitions in clause 19, or by selecting a NULL choice from a CHOICE type.

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Subclause 15.14.2.1.5

Delete all of the subclause.

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Subclause 15.17

Replace the comment line in the EventNotification production.
The protocol in this subclause should now read:

```
EventNotification  ::= SEQUENCE {
   eventEnrollmentName [0] ObjectName,
   eventConditionName  [1] ObjectName,
   severity            [2] IMPLICIT Severity,
   currentState        [3] IMPLICIT EC-State OPTIONAL,
   transitionTime      [4] EventTime,
   notificationLost    [6] IMPLICIT BOOLEAN DEFAULT FALSE,
   alarmAcknowledgmentRule  [7] IMPLICIT AlarmAckRule OPTIONAL,
   actionResult        [8] IMPLICIT SEQUENCE {
     eventActionName    ObjectName,
     eventActionResul     CHOICE {
      success               [0] IMPLICIT SEQUENCE {
                    ConfirmedServiceResponse,
                    [79] CS-Response-Detail OPTIONAL,
                    -- shall not be transmitted if value is the
```

```
                    -- value of a tagged type derived from NULL
                },
    failure                 [1] IMPLICIT SEQUENCE {
      modifierPosition          [0] IMPLICIT Unsigned32 OPTIONAL,
      serviceError              [1] IMPLICIT ServiceError
      }
    }
  } OPTIONAL
}
```

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Subclause 15.17.1.1.1

At the end of the subclause add the following note:

> NOTE — The intent of the comment in the EventNotification production is to preclude the transmission of the CS-Response-Detail field for all occurrences in the abstract syntax defined in this part of ISO/IEC 9506. This is done by assigning the NULL type to all the types referenced in the CS-Response-Detail type. (See the type definitions in 7.5.4 and in clause 19.) MMS Companion Standards may also preclude the transmission of this field either by defining the appropriate type to be NULL, similarly to the definitions in clause 19, or by selecting a NULL choice from a CHOICE type.

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Subclause 15.18

Delete the last line of the AcknowledgeEventNotification-Request.
The production should now read:

```
AcknowledgeEventNotification-Request ::= SEQUENCE {
  eventEnrollmentName          [0] ObjectName,
  acknowledgedState            [2] IMPLICIT EC-State,
  timeOfAcknowledgedTransition [3] EventTime
  }
```

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Subclause 15.19

Replace the comment line following the item tagged [4] in the AlarmSummary production. The protocol in this subclause should now read:

```
AlarmSummary ::= SEQUENCE {
  eventConditionName  [0] ObjectName,
  severity            [1] IMPLICIT Unsigned8,
  currentState        [2] IMPLICIT EC-State,
  unacknowledgedState [3] IMPLICIT INTEGER {
     none      (0),       -- NONE
     active    (1),       -- ACTIVE
     idle      (2),       -- IDLE
```