

The Report of TC 122/WG 4, WG 7, and WG 10 to the ISO TC 122 Plenary

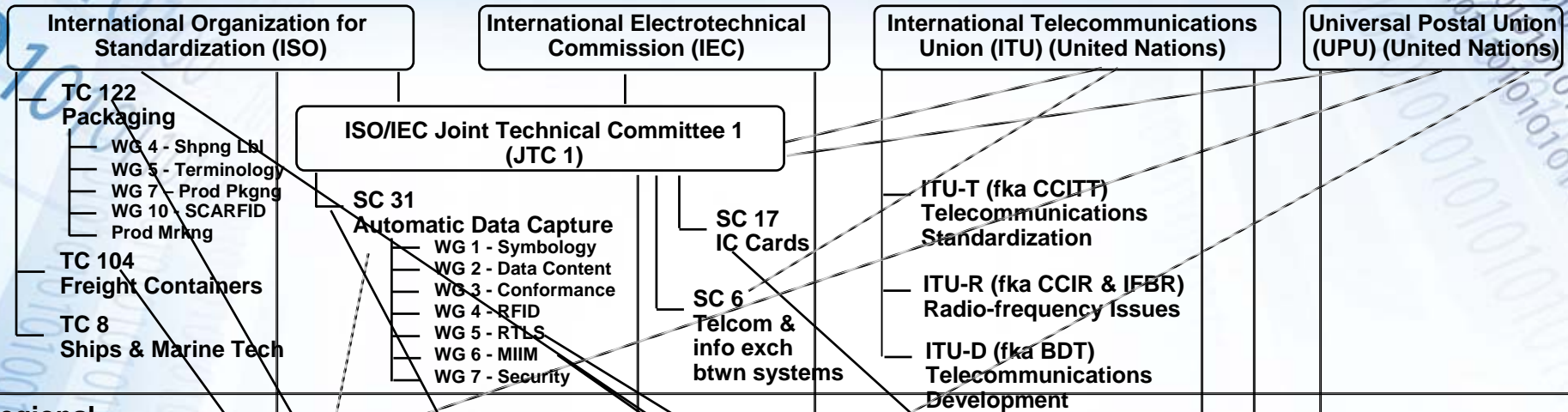
Craig K. Harmon
(Akira Shibata)

Updated 2011-02-24

International Standards Activities

There will be a short quiz at the end

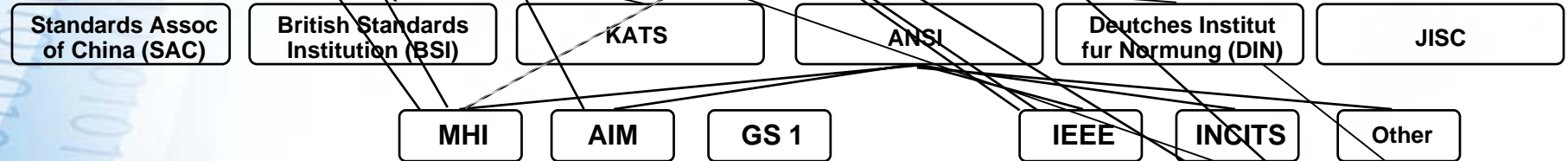
International



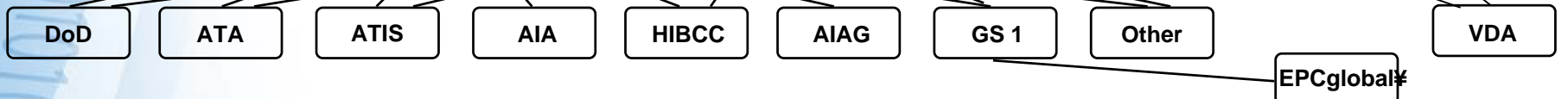
Regional



National



Industry

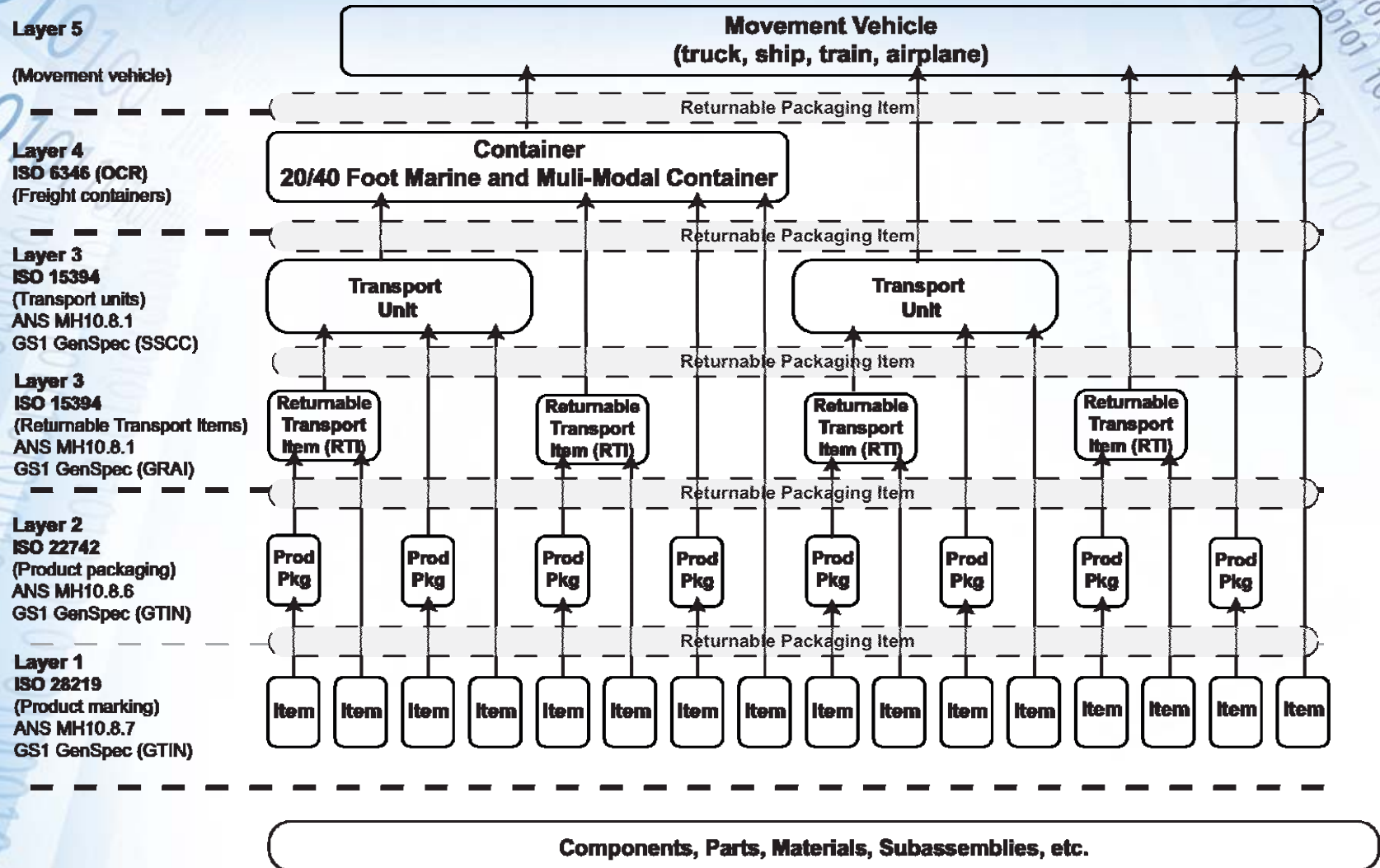


ISO TC 122

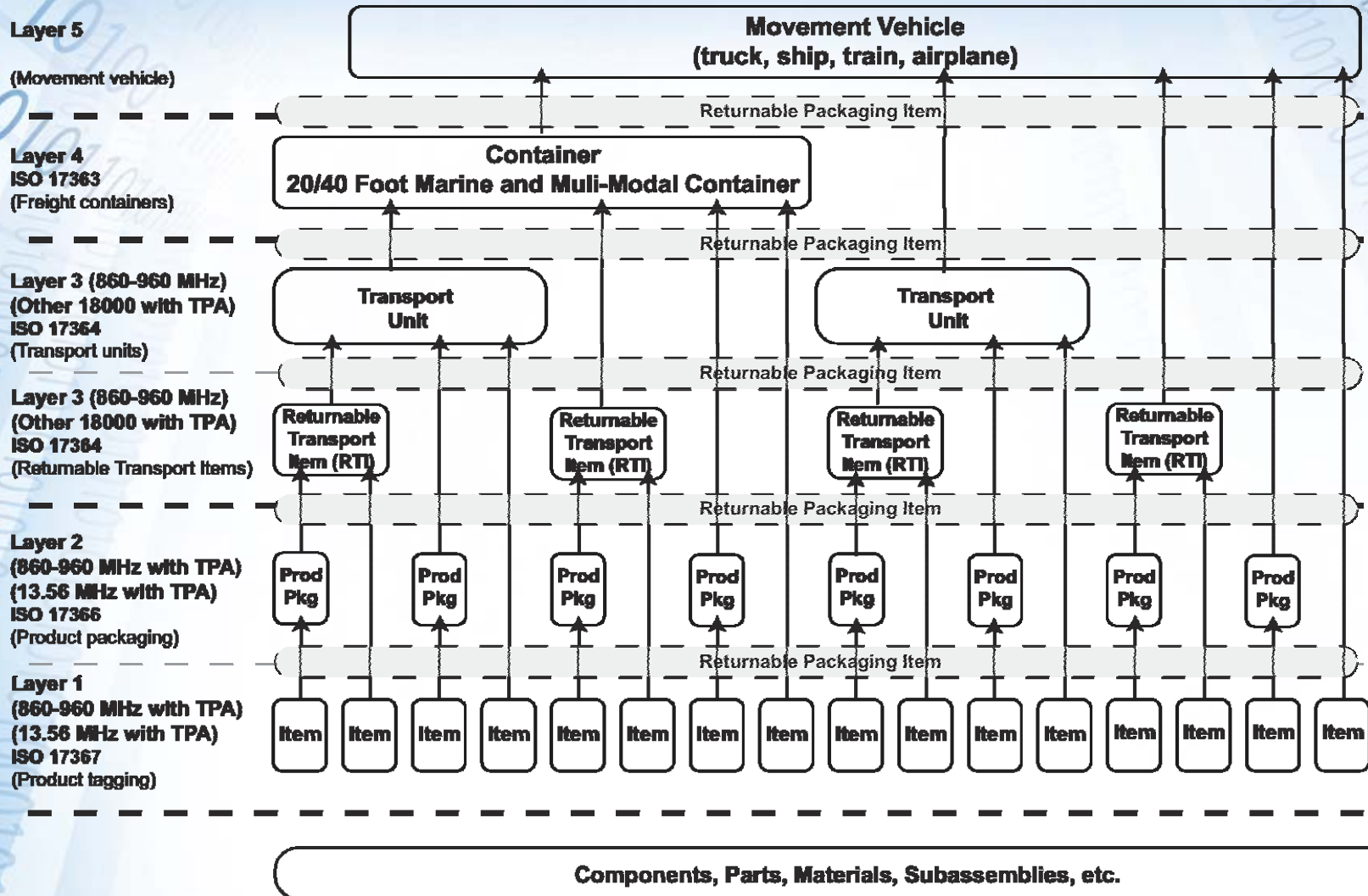
Packaging

Supply chain layers with returnable packaging

Optically Readable Media (ORM)



Supply chain layers with returnable packaging Radio-frequency Identification (RFID)



ISO TC 122/WG 4

Bar code symbols on unit loads and transport packages

ISO TC 122/WG 4

- Work items progressed by modern means of voice and web teleconference
- ISO 15394.2, Packaging — *Bar code and two-dimensional symbols for shipping, transport and receiving labels (Revision of ISO 15394:2000)*
 - **Published 2009-04-13**
- No further work at this time
- ISO 28219:2009, Packaging — *Labeling and direct product marking with linear bar code and two-dimensional symbols*
 - **Published 2009-01-15**
- No further work at this time
- **NOTE: 28219 is listed under WG 4 in the ISO Global Directory. It would be better if this work item were assigned to WG 7**

ISO TC 122/WG 7

Linear bar code and two dimensional symbols for product packaging

ISO TC 122/WG 7

- Work items progressed by modern means of voice and web teleconference
- ISO 22742.2, *Packaging — Linear bar code and two-dimensional symbols for product packaging (Revision of ISO 22742:2004)*
 - ***FDIS ballot initiated 2010-08-26 . . . closes 2010-10-27***
- No further work at this time
- **NOTE 1: The ISO Global Directory has no work items assigned to WG 7. ISO 22742 is assigned to the TC 122 parent. It would be better if 22742 work item was assigned to WG 7**
- **NOTE 2: 28219 is listed under WG 4 in the ISO Global Directory. It would be better if this work item was assigned to WG 7**

ISO TC 122/WG 10

Supply chain applications of RFID

ISO TC 122/WG 10

- ISO 17363, *Supply chain applications of RFID – Freight containers*
 - Published 2007; 2nd Edition NP/CD ballot 122n517, Start 2010-08-14, End 2010-10-14, Disposition of comments meeting 2011-02-08-09, **Recommend DIS**
- ISO 17364, *Supply chain applications of RFID – Returnable transport items*
 - Published 2009; 2nd Edition CD ballot, 122n518, Start 2010-08-30, End 2010-10-30, Disposition of comments meeting 2011-02-08-09, **Recommend DIS**
- ISO 17365, *Supply chain applications of RFID – Transport units*
 - Published 2009; 2nd Edition CD ballot, 122n519, Start 2010-08-30, End 2010-10-30, Disposition of comments meeting 2011-02-08-09, **Recommend DIS**
- ISO 17366, *Supply chain applications of RFID – Product packaging*
 - Published 2009; 2nd Edition CD ballot, 122n520, Start 2010-08-30, End 2010-10-30, Disposition of comments meeting 2011-02-08-09, **Recommend DIS**
- ISO 17367, *Supply chain applications of RFID – Product tagging*
 - Published 2009; 2nd Edition CD ballot, 122n521, Start 2010-08-30, End 2010-10-30, Disposition of comments meeting 2011-02-08-09, **Recommend DIS**

ISO TC 122/WG 10

- Work items progressed by modern means of voice and web teleconference
- ISO 17363:2007 Systematic Review conducted from 2010-04-15 through 2010-09-15.
 - Nine (9) NBs recommend “Confirm with or without correction”.
 - Three (3) NBs recommend “Revise/Amend”.
 - Zero (0) NBs recommend “Withdraw”.
- ISO 17363:2007 NP/CD Revision conducted from 2010-08-14 through 2010-11-14.
 - Ballot results for 17363 through 17367 not posted by TC 122 Secretariat
 - Seventeen (17) NBs approve the addition of the work item.
 - Two (2) NBs disapprove
 - Seven (7) NBs commit to participate in the work item
 - Comments received and addressed 2011-02-08-09
 - **Recommended for DIS ballot**

1736x Revisions Address

- Inclusion of returnable packaging items within the standards
- Clarification of sensor interface at all levels supporting the SC 31 standards of
 - ISO/IEC/IEEE 21450
 - ISO/IEC/IEEE 21451-1
 - ISO/IEC/IEEE 21451-2
 - ISO/IEC/IEEE 21451-4
 - ISO/IEC/IEEE 21451-7
- Inclusion of a wireless sensor interface built on ISO/IEC/IEEE 8802-15-4 with communications to access point and infrastructure
- Sensor interface for sensor subject to the interfaces described in 2145x and 8802-15-4
- **Six-bit encoding of 15434 data**

Six-bit ASCII (ISO 1736x & 29162)

Space	100000	0	110000	@	000000	P	010000
<EOT>	100001	1	110001	A	000001	Q	010001
<Reserved>	100010	2	110010	B	000010	R	010010
<Reserved>	100011	3	110011	C	000011	S	010011
<Reserved>	100100	4	110100	D	000100	T	010100
<Reserved>	100101	5	110101	E	000101	U	010101
<Reserved>	100110	6	110110	F	000110	V	010110
<Reserved>	100111	7	110111	G	000111	W	010111
(101000	8	111000	H	001000	X	011000
)	101001	9	111001	I	001001	Y	011001
*	101010	:	111010	J	001010	Z	011010
+	101011	;	111011	K	001011	[011011
,	101100	<	111100	L	001100	¥	011100
-	101101	=	111101	M	001101]	011101
.	101110	>	111110	N	001110	<GS>	011110
/	101111	?	111111	O	001111	<RS>	011111

Values 100001 through 100111 and 011110 through 011111 reserved:

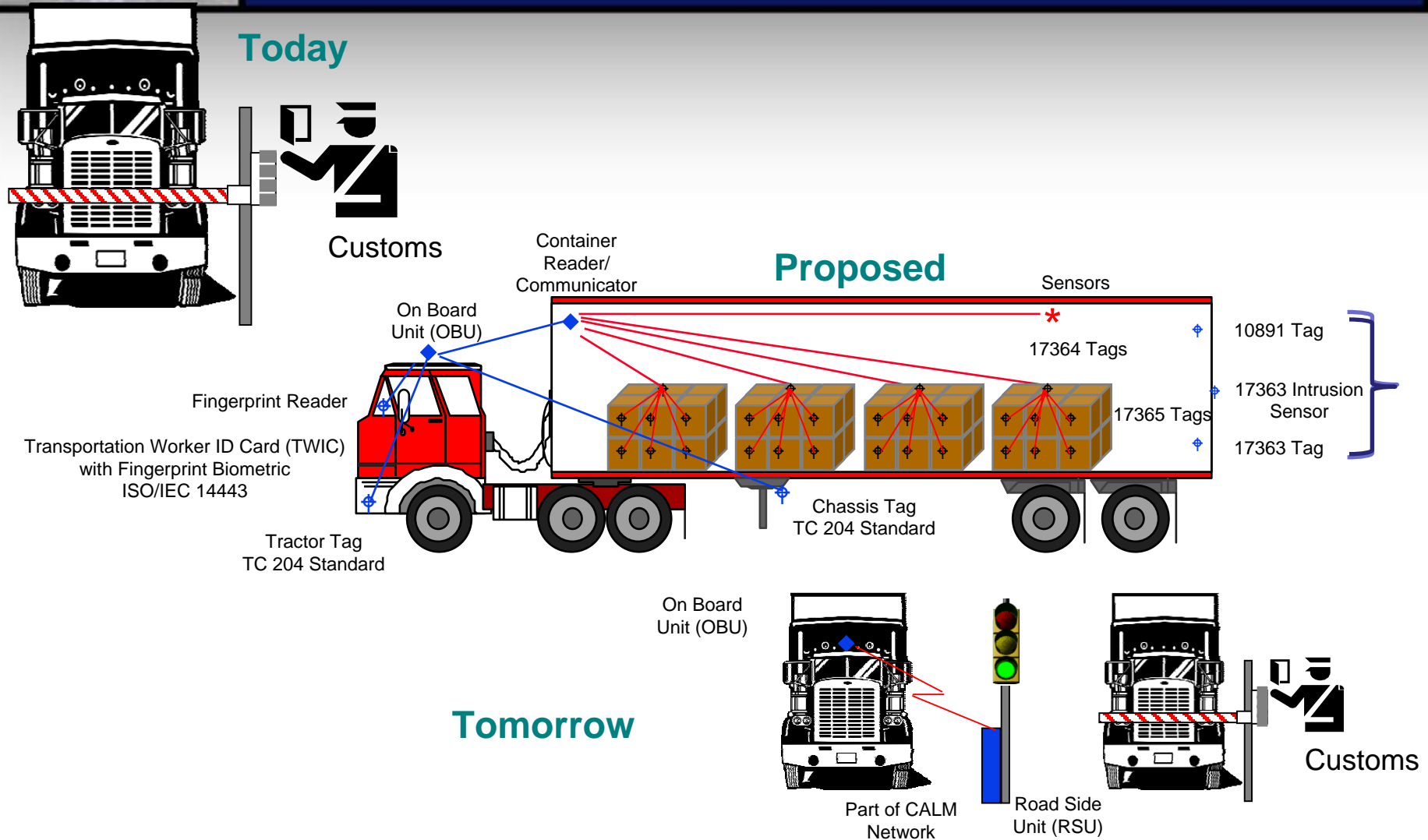
- <EOT> (100001)
- <GS> (011110)
- <RS> (011111)

Potential reservation of a single character from “[)]>^R_s06^G_s”

Benefit of 1736x Declaring 6-bit ASCII

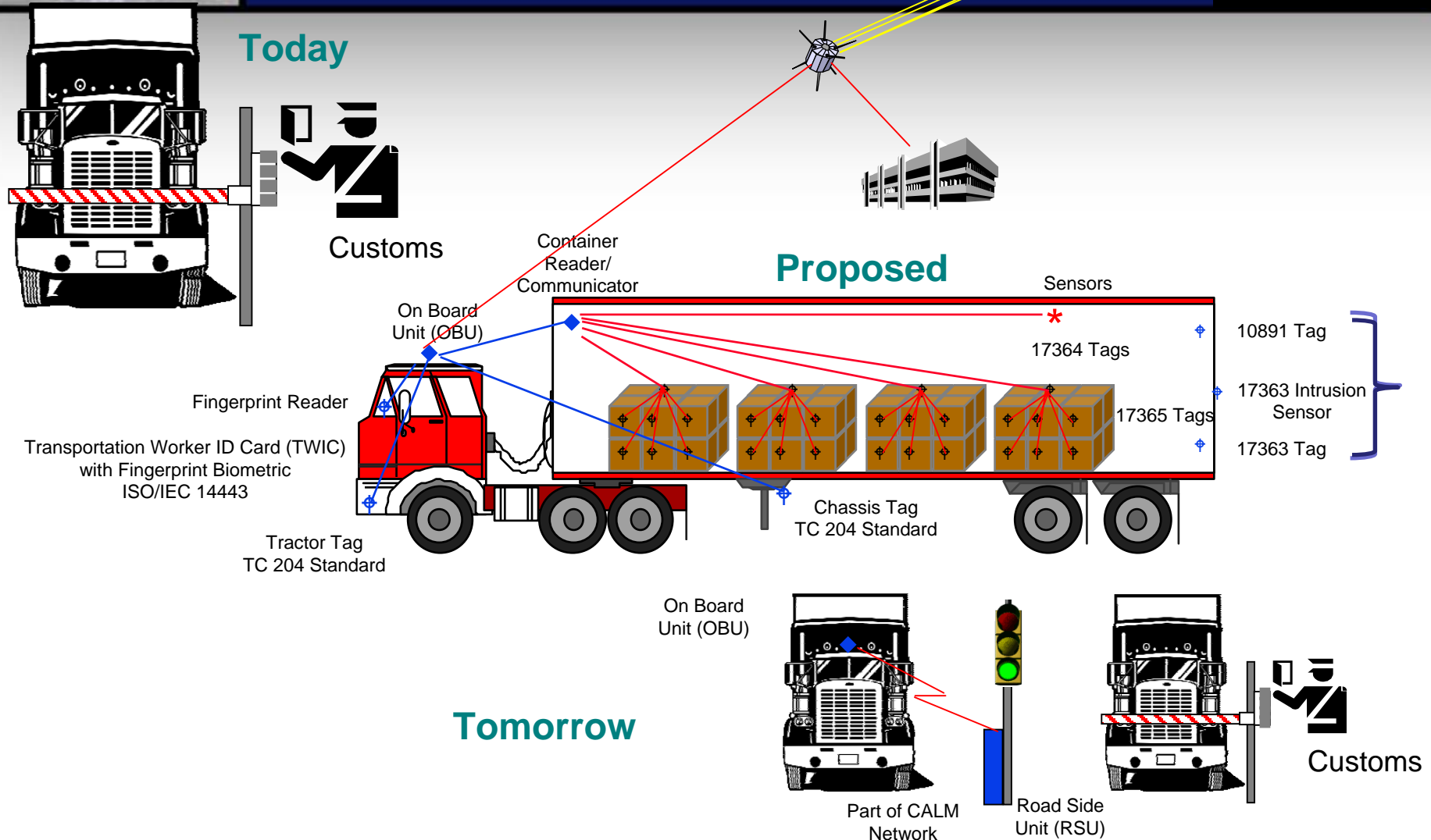
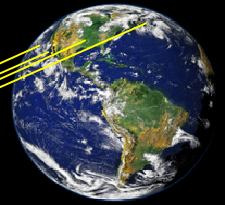
- After compaction and encoding ISO/IEC 15962 concludes with 6-bit encoding
- Includes all required characters for supply chain data
- Is 25% more compact than existing 8-bit ASCII
- Characters derived by simply extracting the two highest order bits from 8-bit ASCII
- Does not require ISO/IEC 15962, DSFID, Precursor, OIDs, Relative OIDs, or Packed Objects
- Monomorphic ULLs are supposed to declare encoding; though 1736x currently does not
- **Specific codeword (100001) for character string “[]>^R_S06^G_S . . . E_O^T” (similar to Data Matrix encoding)**
- Ten (10) characters not required for supply chain applications can be used for special characters used in 15434, plus a latch to 8-bit ASCII if required
- Enables direct translation from RFID to optically readable media (back-up)
- Enables an efficiently encoded ULL, derived from ISO/IEC 15459

Border Crossing & ISO TC 204's 26683





Border Crossing & ISO TC 204's 26683



Border Crossing & ISO TC 204's 26683

TC204SWG7.3

TC8 ISO 28000 security management

Truck Location

Warehouse

OBU

nomadic device

ISO24534 ISO17261-3

TC204WG4/16

TC8 ISO 20858 (IMO)

Truck Location

ISO24534 ISO17261-3

TC204WG4/16

TC104 Freight Container

Warehouse

Product

ISO28219 ISO17367 Product tagging

ISO22742 ISO17366 Product packaging

ISO15394 ISO17364 Pallet

ISO17363 Container

SC31WG2

TC104/122 JWG

ISO17363 Container

ISO15394 ISO17364 Pallet

ISO22742 ISO17365 Transport units

ISO28219 ISO17367 Product tagging

ISO22742 ISO17366 Product packaging

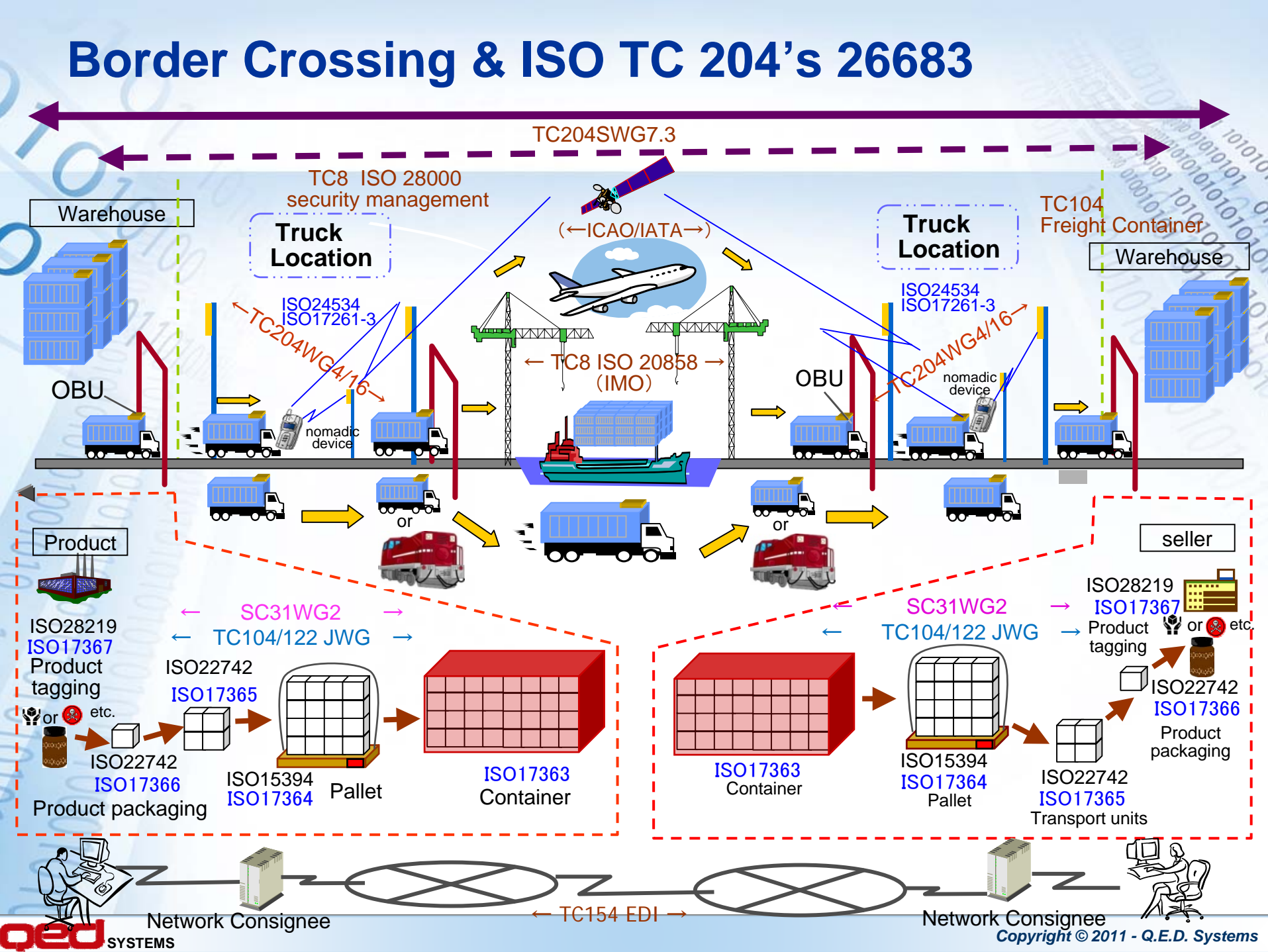
TC154 EDI

Network Consignee

Network Consignee

qed SYSTEMS

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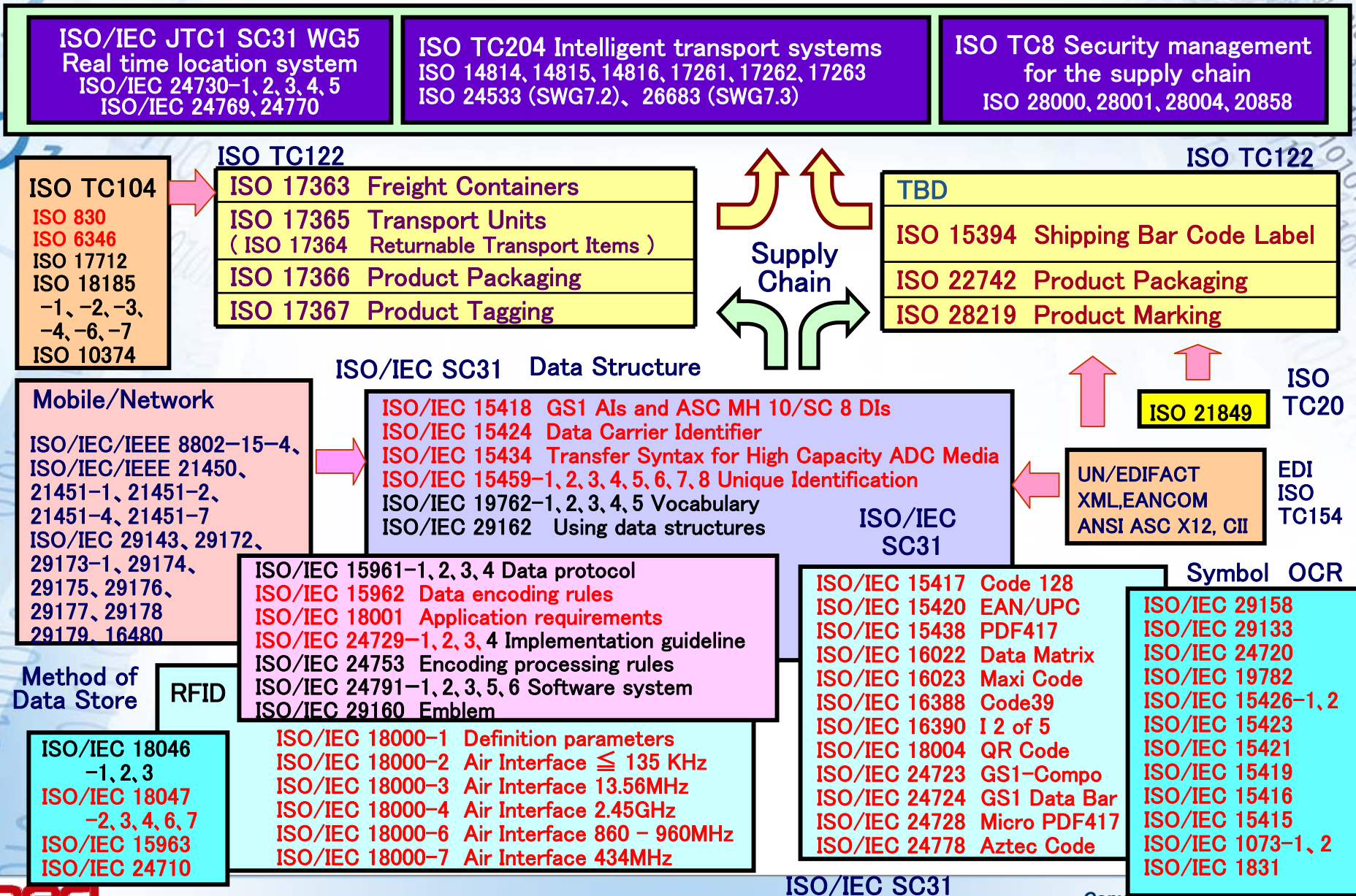
Standards

- The standards of ISO 17363, ISO 17364, ISO 17365, ISO 17366, ISO 17367, and ISO 10891 are based on the standards of ISO TC 122 and ISO/IEC JTC 1/SC 31
 - Technology standards (e.g. ISO/IEC 18000-6, 18000-3, 18000-7, 24730-2, and 8802-15-4 for RF)
 - Data standards (e.g. ISO/IEC 15434, 15418, 15459, 15963)
 - Conformance standards (e.g. ISO/IEC 18047-6, 18047-3, 18047-7, and 24769 for RF)
- Sensor standards are the cooperative work of ISO/IEC JTC 1/SC 31 and IEEE 1451
 - Technology standards (e.g. ISO/IEC/IEEE 21450, ISO/IEC/IEEE 21451-1, ISO/IEC/IEEE 21451-2, ISO/IEC/IEEE 21451-5, ISO/IEC/IEEE 21451-7 and ISO/IEC/IEEE 8802-15-4 for wireless)

Standards

- ISO 17365 (transport unit) tags used to build 17364 pallet tags
- ISO 17364 tags used to build 17363 container/manifest tags and to communicate with container reader/ communicator
- ISO/IEC/IEEE 2145x sensors communicate through ISO/IEC/IEEE 8802-15-4 infrastructure to internal and external infrastructures
- ISO 10891 (formerly designated as ISO 10374.2) tag identifies container
- ISO 17363 intrusion sensor (eSeal) communicates to infrastructure
- Chassis is identified by ISO TC 204 tag (ISO 14816) [note that ISO 10891 claims the chassis as well]
- Tractor is identified by ISO TC 204 tag (ISO 14816)
- Driver is identified by ISO/IEC JTC 1/SC 17 Transportation and DHS Worker Identification Card (TWIC)
- On-board Unit (OBU) communicates to Road-side Unit (RSU) via CALM (Communication Air-interface Long and Medium range) Network (**OBU-RSU communications protocol provisional**)
- On-board Unit (OBU) also provides location information and communications via / satellite/GPS

Standards



Concept of Operations

- As supply chain pallets are being built, transport unit tags are loaded to pallet tags identifying contents, who built the shipment, purchase order number, and when the shipment was built.
- As pallets are loaded into the container, pallet tags are loaded to container supply chain tags identifying contents, who built the shipment, purchase order number, container ID, eSeal ID, and when the container was stuffed.
- Container loaded onto chassis.
- When the tractor connects to the chassis, container information, chassis ID, and tractor ID is loaded to the On-board Unit (OBU) through CANbus-like communications
- Driver inserts TWIC to ID card/fingerprint print reader
- Immediately prior to border crossing event, driver records in vitro fingerprint to the OBU and a time stamp of fingerprint read.
- At the border crossing point the contents of the OBU are transferred to the Road-side Unit (RSU). The Road-side Unit (RSU) might also capture information from the Container ID, eSeal, and Supply Chain/Manifest tag.
- Process records the matching of the driver to the tractor, chassis, container, contents, eSeal, and time of the event.
- OBU also able to drive GPS system

Resolutions requested from TC 122

- Resolved that ISO TC 122 requests an internal liaison with ISO/IEC JTC 1/SC 31.
 - This establishes the liaison at the parent committee level that had previously existed with
 - TC 122/TC 104 Joint Working Group (disbanded)
 - TC 122/WG 4 (ISO 15394)
 - Liaison Officer to remain Mr. Craig K. Harmon (in both directions)
- Resolved that ISO TC 122 requests an internal liaison with ISO TC 204.
 - Liaison Officer to be Mr. Craig K. Harmon
- Resolved that ISO TC 122 reconfirms an internal liaison with ISO TC 104.
 - Liaison Officer to remain Mr. Craig K. Harmon
- Resolved that ISO TC 122 reconfirms an Category A liaison with ITU-T and ITU-R.
 - Liaison Officer to remain Mr. Craig K. Harmon
- Resolved that the TC 122 Secretariat will contact the ISO Central Secretariat to ensure that ISO 28219 is assigned in the ISO Global Directory to 122/WG 7
- Resolved that the TC 122 Secretariat will contact the ISO Central Secretariat to ensure that ISO 22742 is assigned in the ISO Global Directory to 122/WG 7

Resolutions requested from TC 122

- **WG 10 reviewed the New Work Item Requests from the NB of Japan**
 - “**Application Guideline on Data Carriers for Supply Chain Management**”
 - “**Direct Marking on Plastic Returnable Transport Items (RTIs)**”
- **WG 10 recommends that TC 122 approve these New Work Item Requests.**

???

Thank you!!!

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