

# Communication Standards

**HL7 Australia Seminar**

**- HL7 V2.x Acknowledgements -**  
*Is there anybody out there?*

*Klaus Veil + Vince McCauley*  
HL7 Australia

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HL7 Australia - October 2007 Seminar 1

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**Session Overview**

Part 1 (Klaus Veil):

- What are HL7 V2.x "Acknowledgements"?
- Why are Acknowledgements important?
- *"Is there anybody out there?"*
- So what is the problem?
- Possible solutions - Overview

Part 2 (Vince McCauley):

- How to implement Acknowledgements correctly detailed explanation
- Which Acknowledgement modes should be used
- Which Acknowledgement codes should be used
- Q & A

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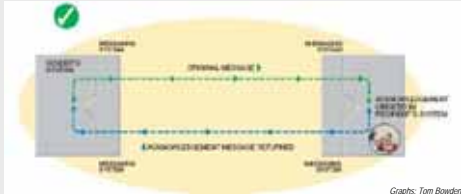
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# Communication Standards

## What are HL7 V2.x "Acknowledgements" (1)

- HL7 V2.x "Acknowledgements" are HL7's fundamental mechanism of ensuring transaction integrity
- EVERY HL7 V2.x transaction consists of at least TWO messages:
  - Message (Example: A04 "Patient Admit" message)
  - Acknowledgement (Example: ACK "Admit Acknowledgment" message)



Graphs: Tom Bowden, HealthLink



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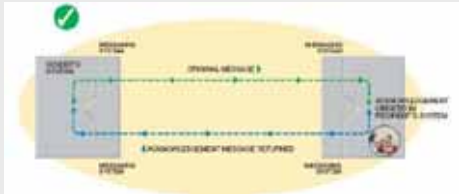
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## What are HL7 V2.x "Acknowledgements" (2)



- IF the Sender's System does not get an acknowledgment back from the Receiver, it assumes that the message sent never arrived.
- ONLY when the Sender's System gets the acknowledgment back from the Receiver does it complete the transaction (similar to the "commit" in database transactions).
- Strict enforcement of this ensures transaction integrity...



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## Why are Acknowledgements important?

- There are many reasons why transactions can fail:
  - Receiving systems not working
  - Network connection not working
  - Message that was sent not understood by receiver
  - etc...
- HL7 V2.x uses the same mechanism as large databases and financial systems, as "half" of a transaction may lead to disastrous results...
- End-to-End Acknowledgements are the only way to guarantee the integrity of a transaction...



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## So what is the problem? (1)

- Many systems only support "comms-to-comms" acknowledgement = NO assurance that the receiving application actually received the message...
- Some sending systems don't expect an acknowledgement...



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# Communication Standards

## So what is the problem? (2)

- The lack of an "end-to-end" transaction confirmation with "transaction commit" is very risky in healthcare.
- NO financial institution would accept a communications system without a mechanism of assurance of committed transactions.
- *But in healthcare we seem to accept an "is there anybody out there" situation...*



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## Possible solutions...

- Provide a way that the sender can be 100% sure that a message sent has been received by the receiver.
- Even better: Provide a way that the sender can be 100% sure that a message sent has been received by the receiver and acted upon.
- The lack of this assurance (unacceptable to any banker) in distributed healthcare information systems leads to a culture of "double-checking" and "belt & braces", so negating much of the promised advantages of eHealth...
- Part 2 will outline various ways by which HL7 V2.x can provide this assurance...



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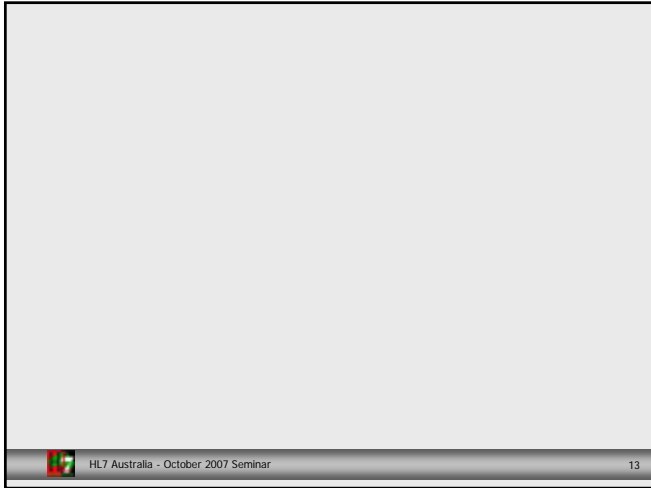
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