Message Over Medium:

Communication Loops in the CMMI

Elements of Communication

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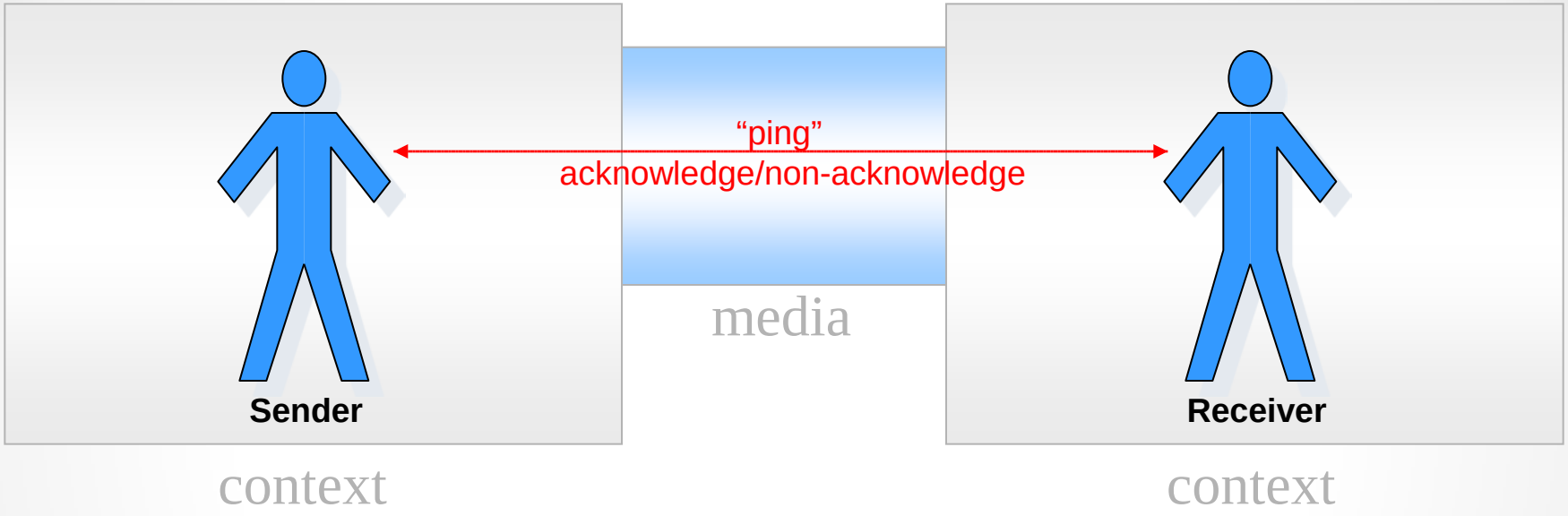
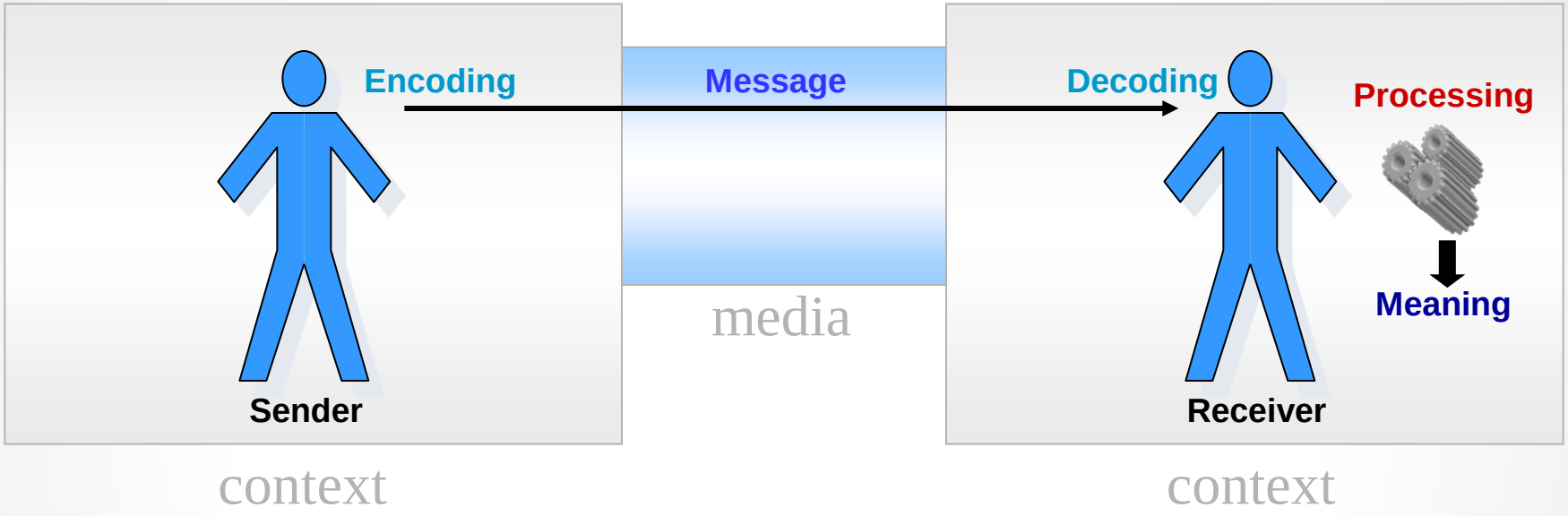


Elements of Communication



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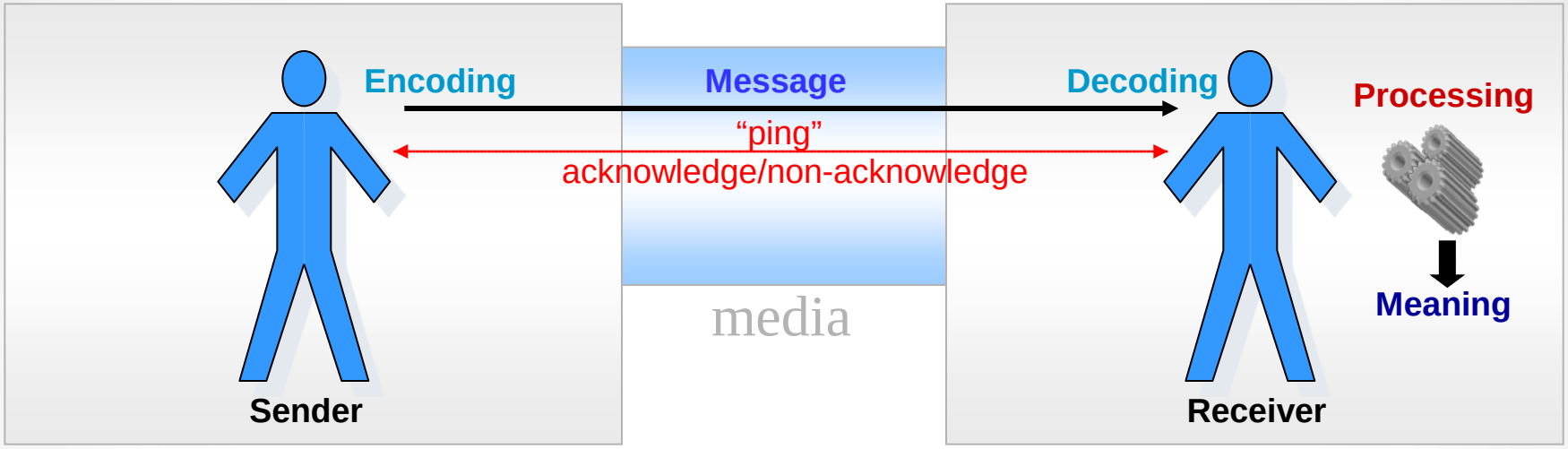

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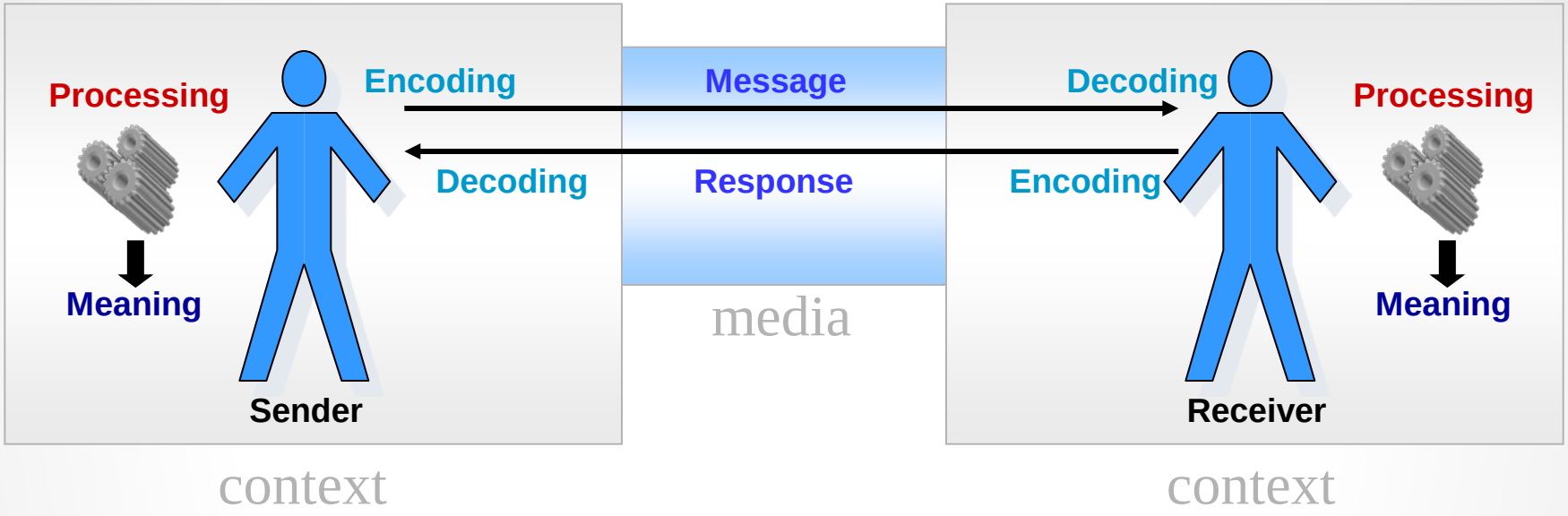
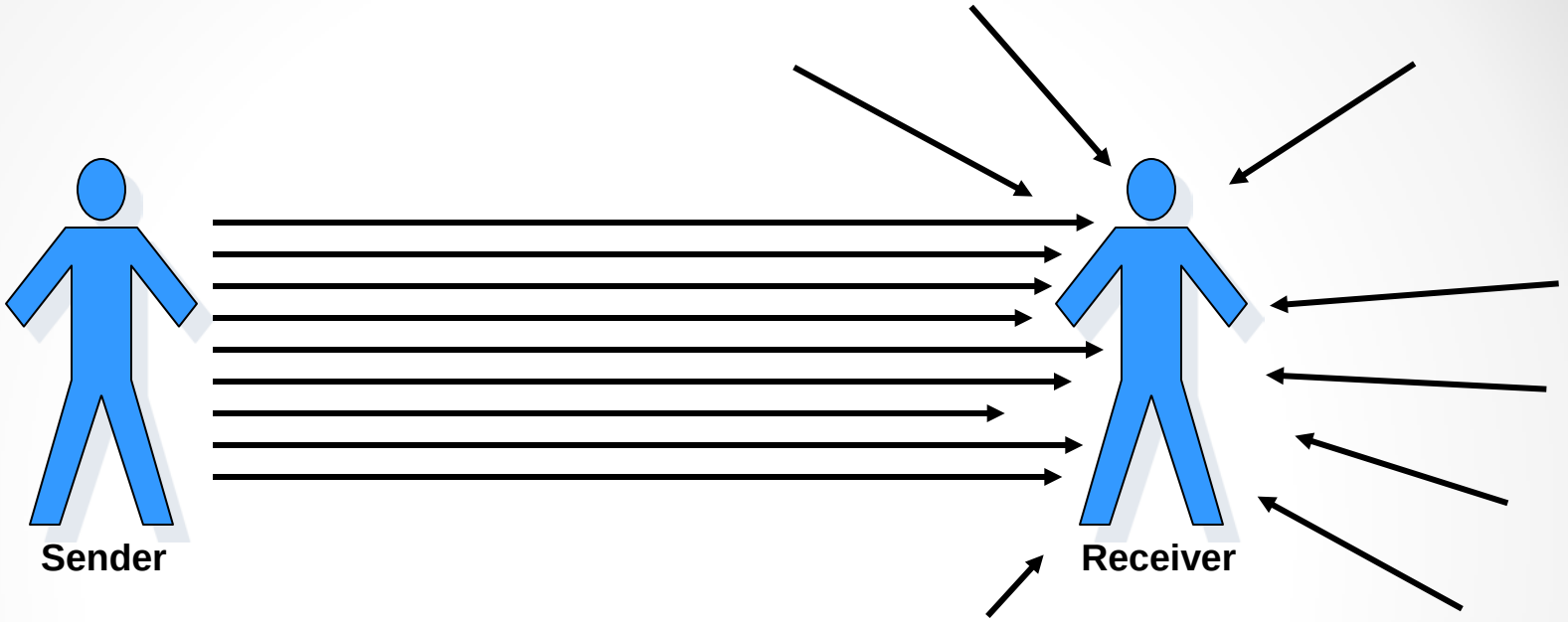


Elements Summary

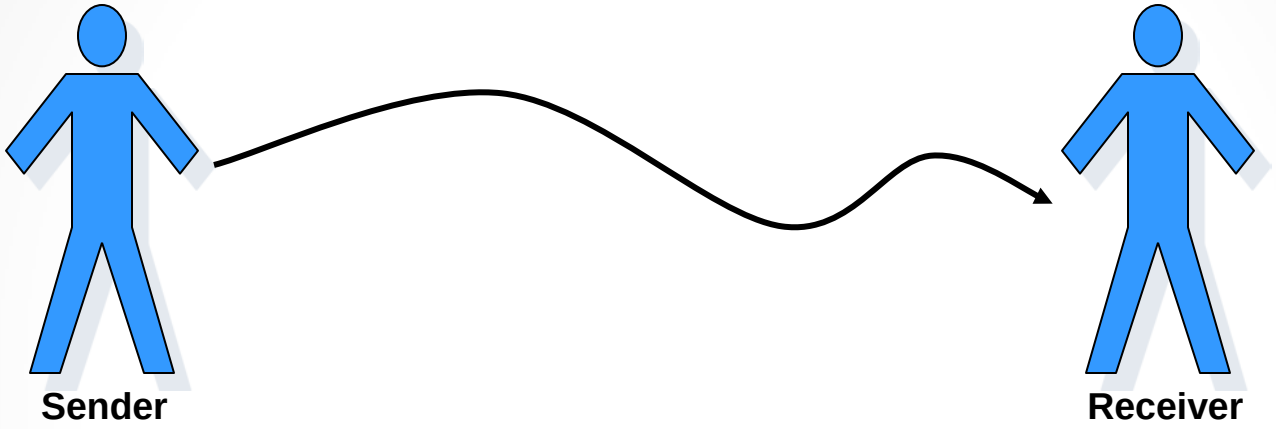
- Sender
- Receiver
- “Handshaking”
- Medium
- Message
- Contexts
- Meaning

Noise via Overload



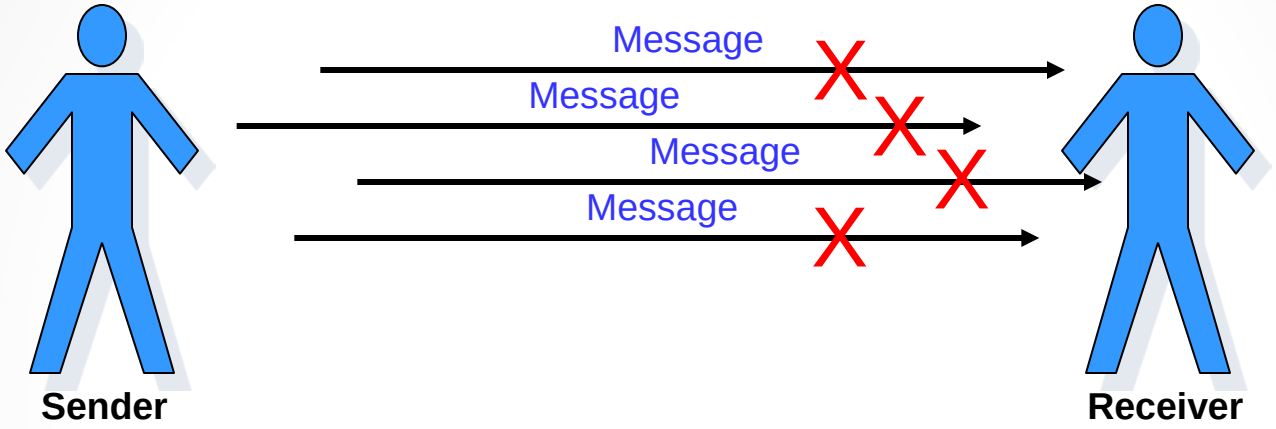
- Unfiltered communication
- Environmental factors
- Input Selection challenges

Noise via Distortion



- Medium unreliability distorts or redacts
- Faulty encoding/decoding
- Context mismatch
- Synchronization issues

Noise via Mixed Messages



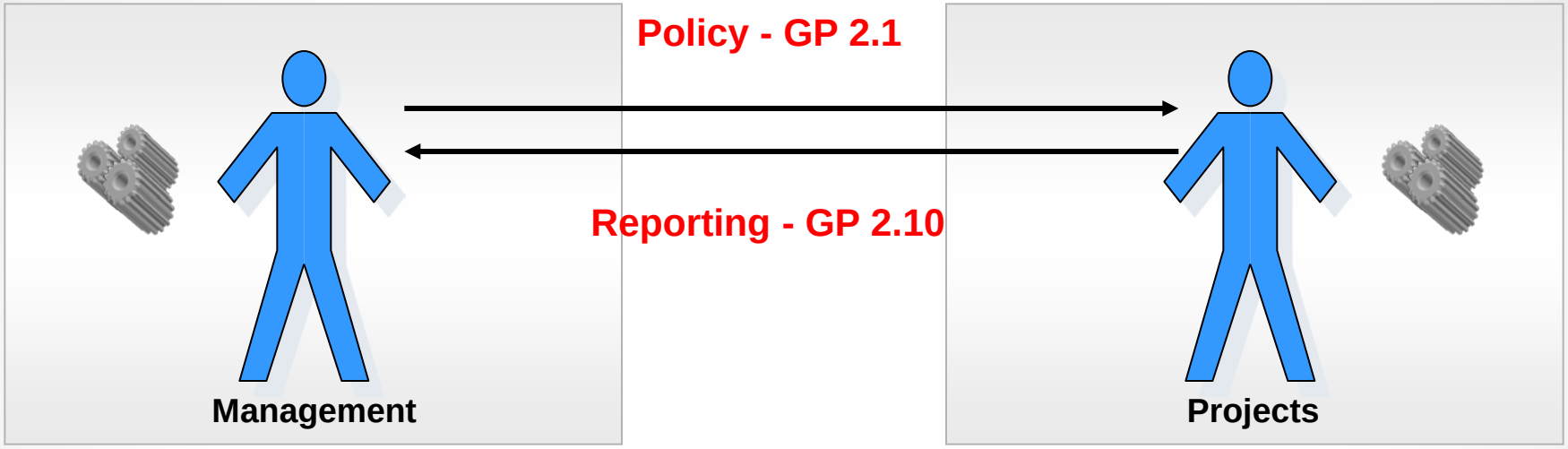
- Mixed Messages

Noise Summary

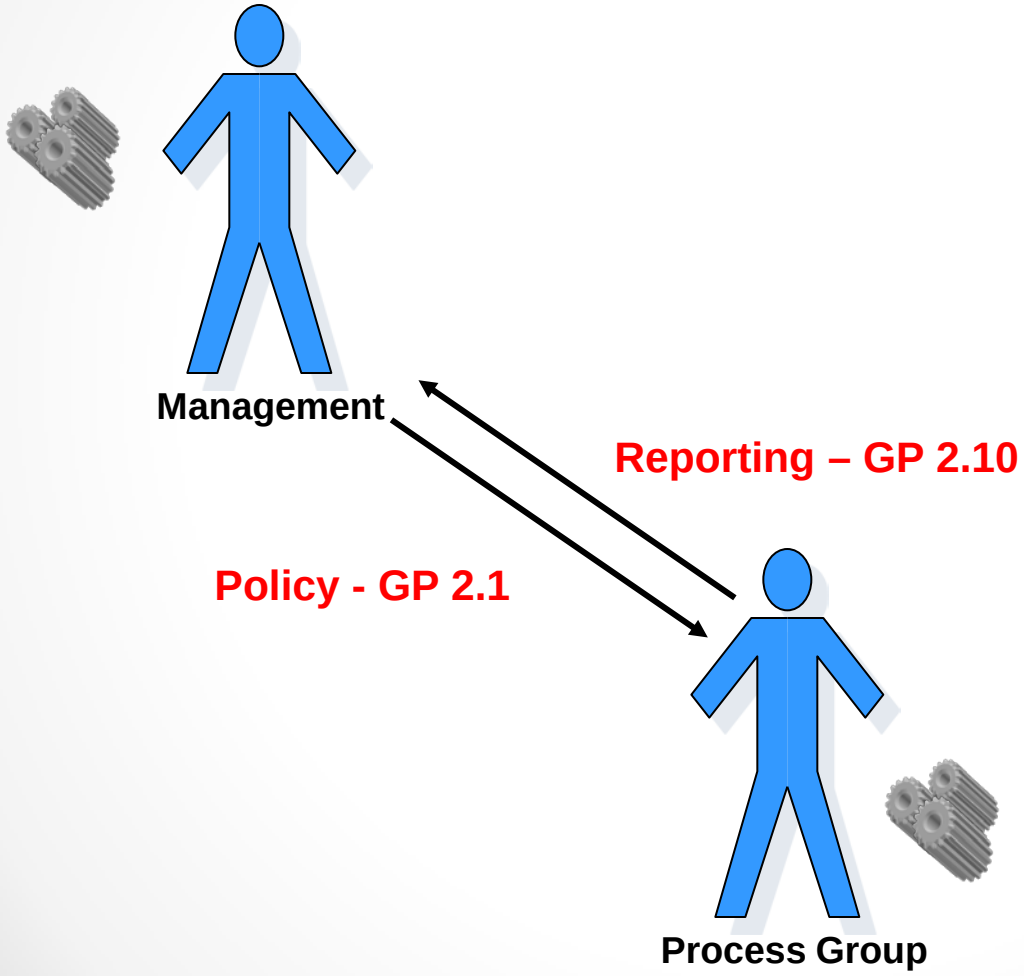
- Overload
- Distortion
  - Medium unreliability
  - Faulty encoding/decoding
  - Context mismatch
  - Synchronization issues
- Mixed Messages

Communication Loops in The Generic Practices

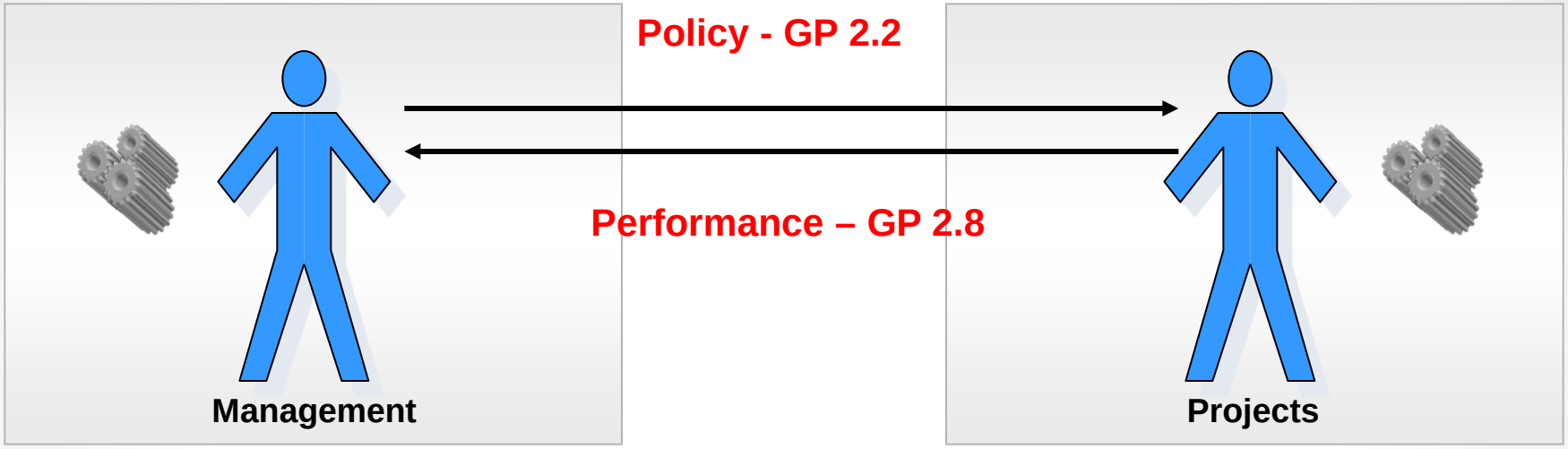
Loop – Policy and Reporting



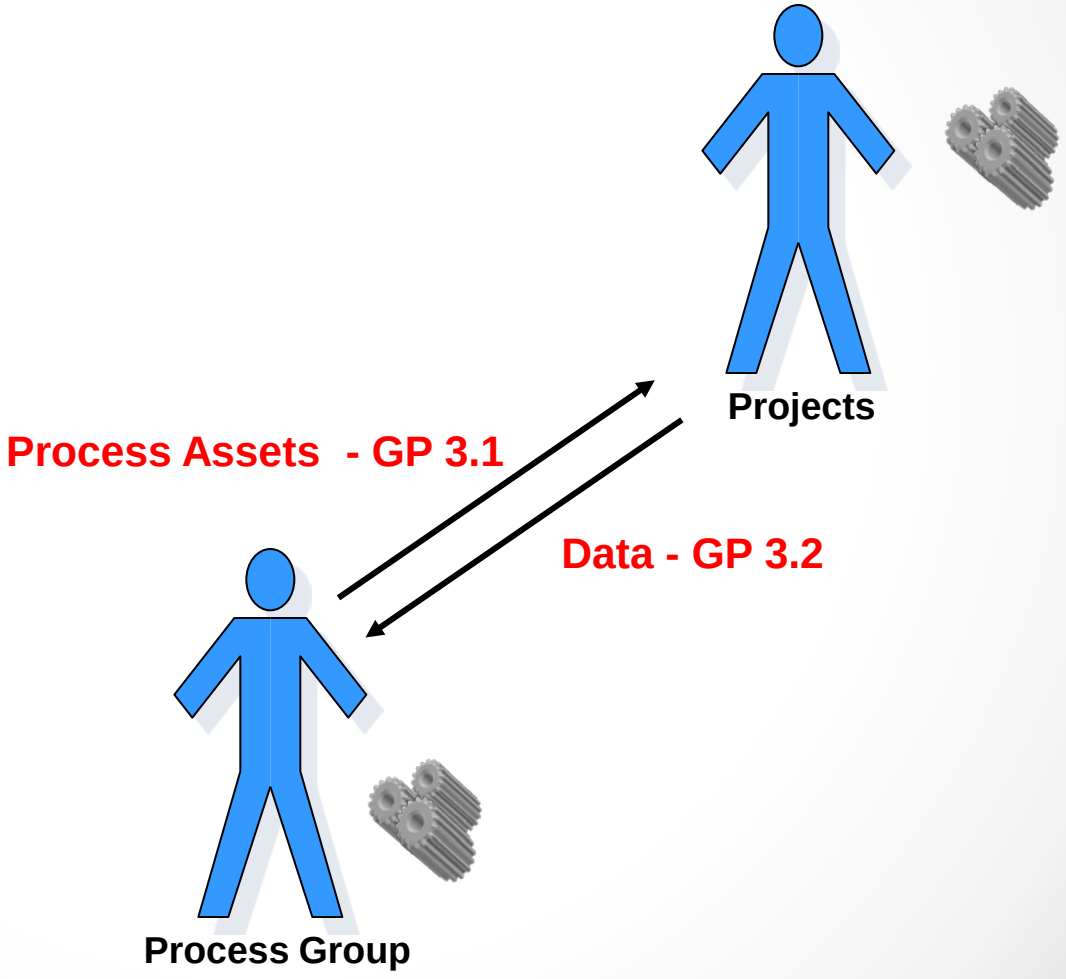
Policy and Reporting - SEPG



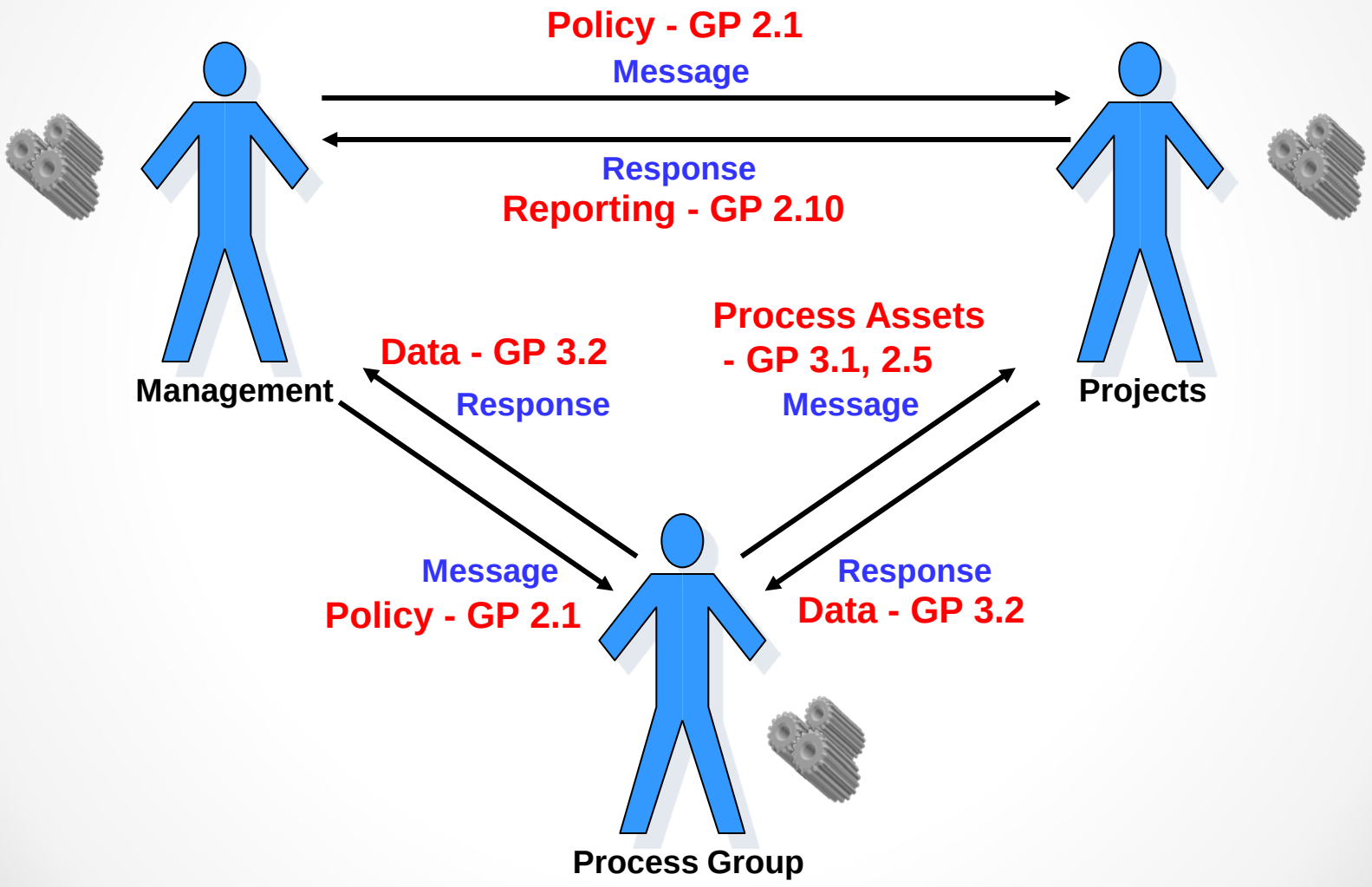
Loop – Planning and Performance



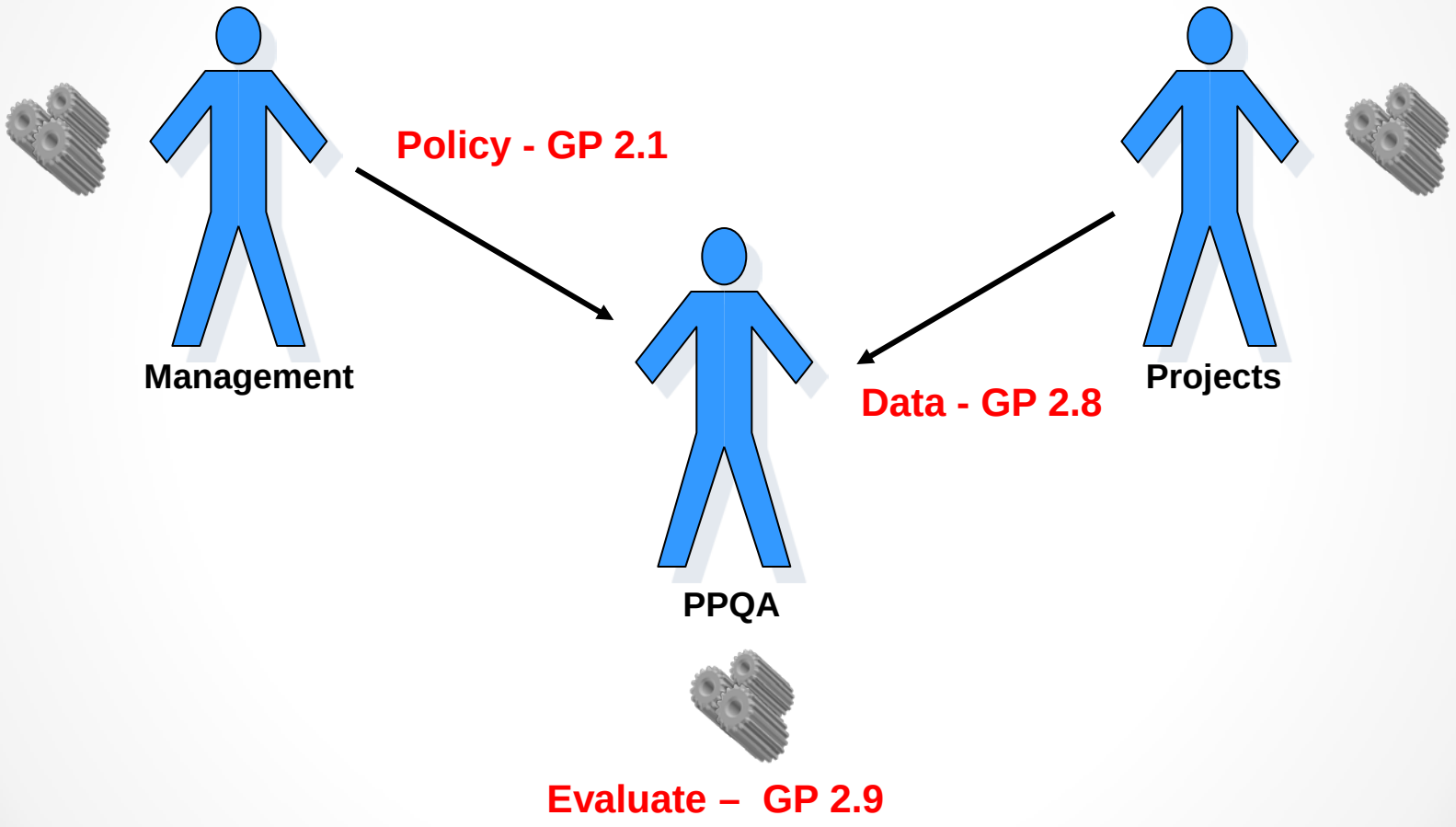
Process Communication



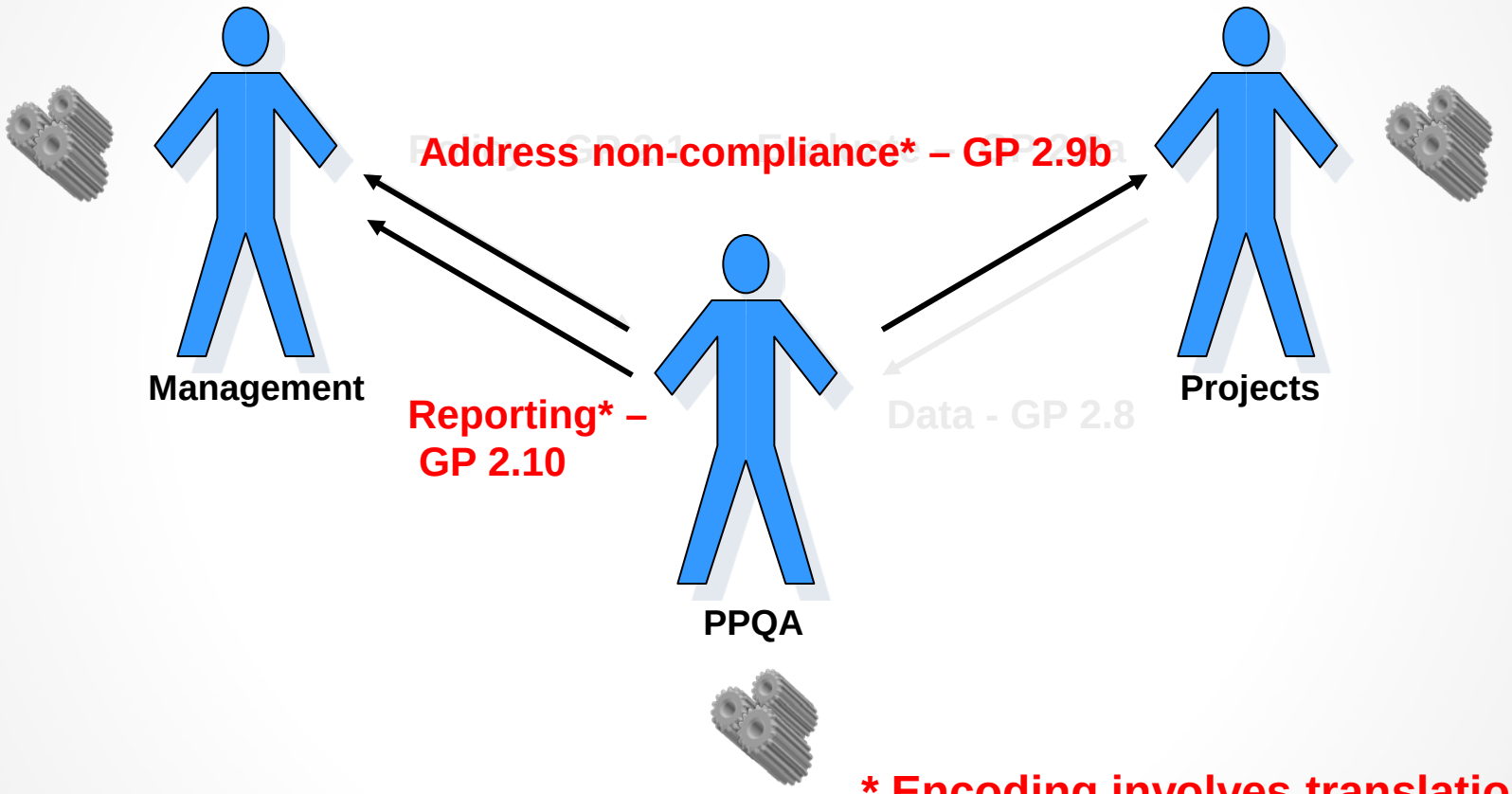
Multi-Level Communication



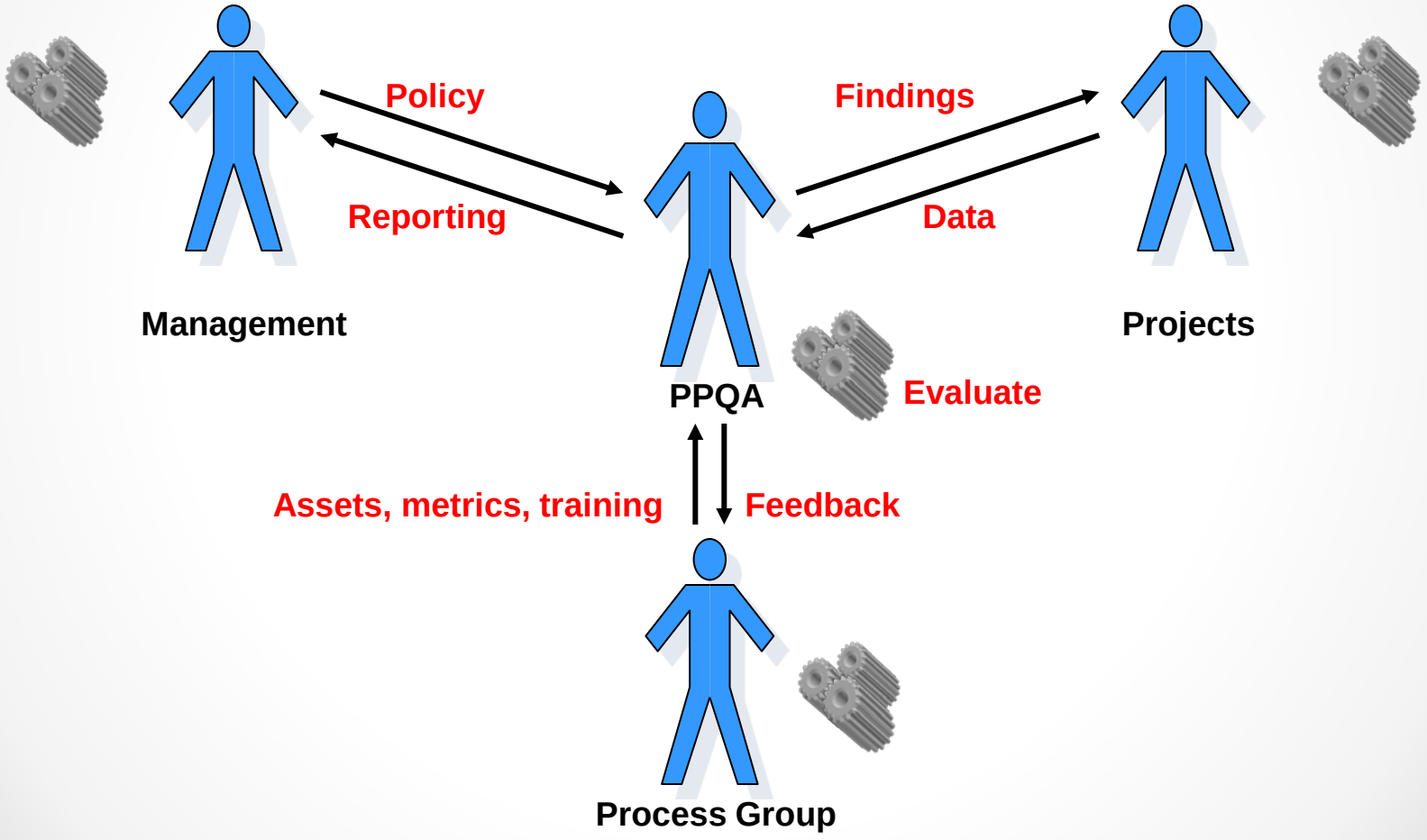
Objective Evaluation



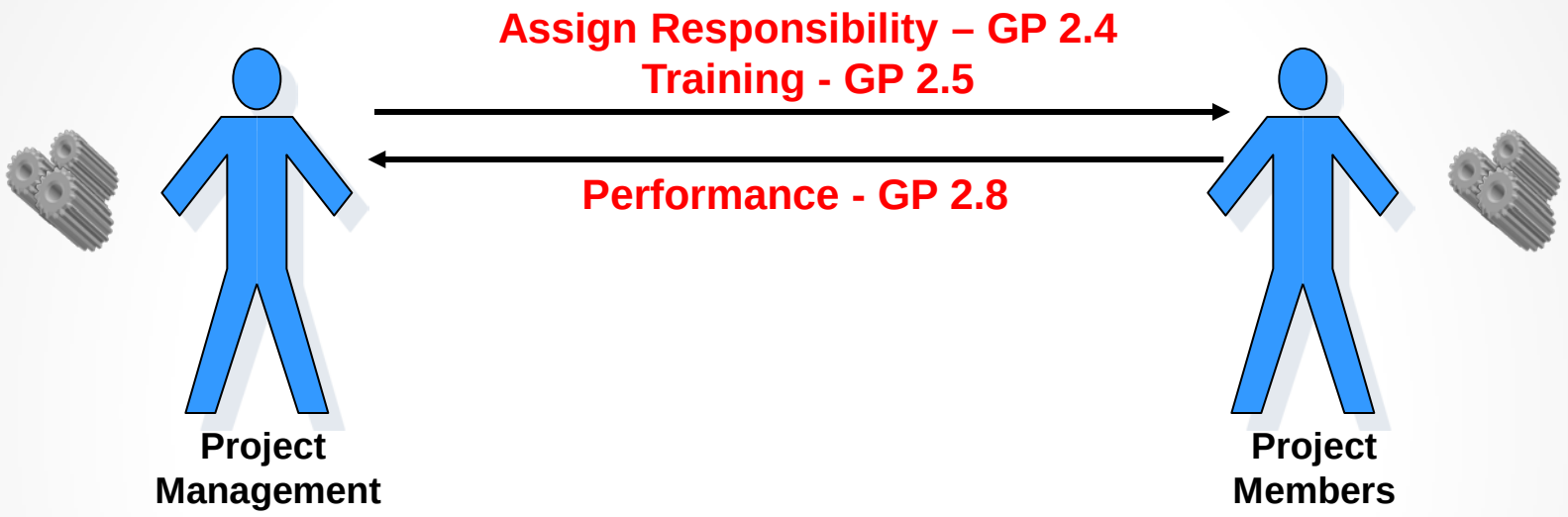
Adherence


Address non-compliance* – GP 2.9b
Management
Reporting* –
GP 2.10
Data - GP 2.8
Projects
PPQA
* Encoding involves translation

Reporting


Policy
Reporting
Findings
Data
Management
PPQA
Projects
Evaluate
Assets, metrics, training
Feedback
Process Group

Skills and Responsibilities



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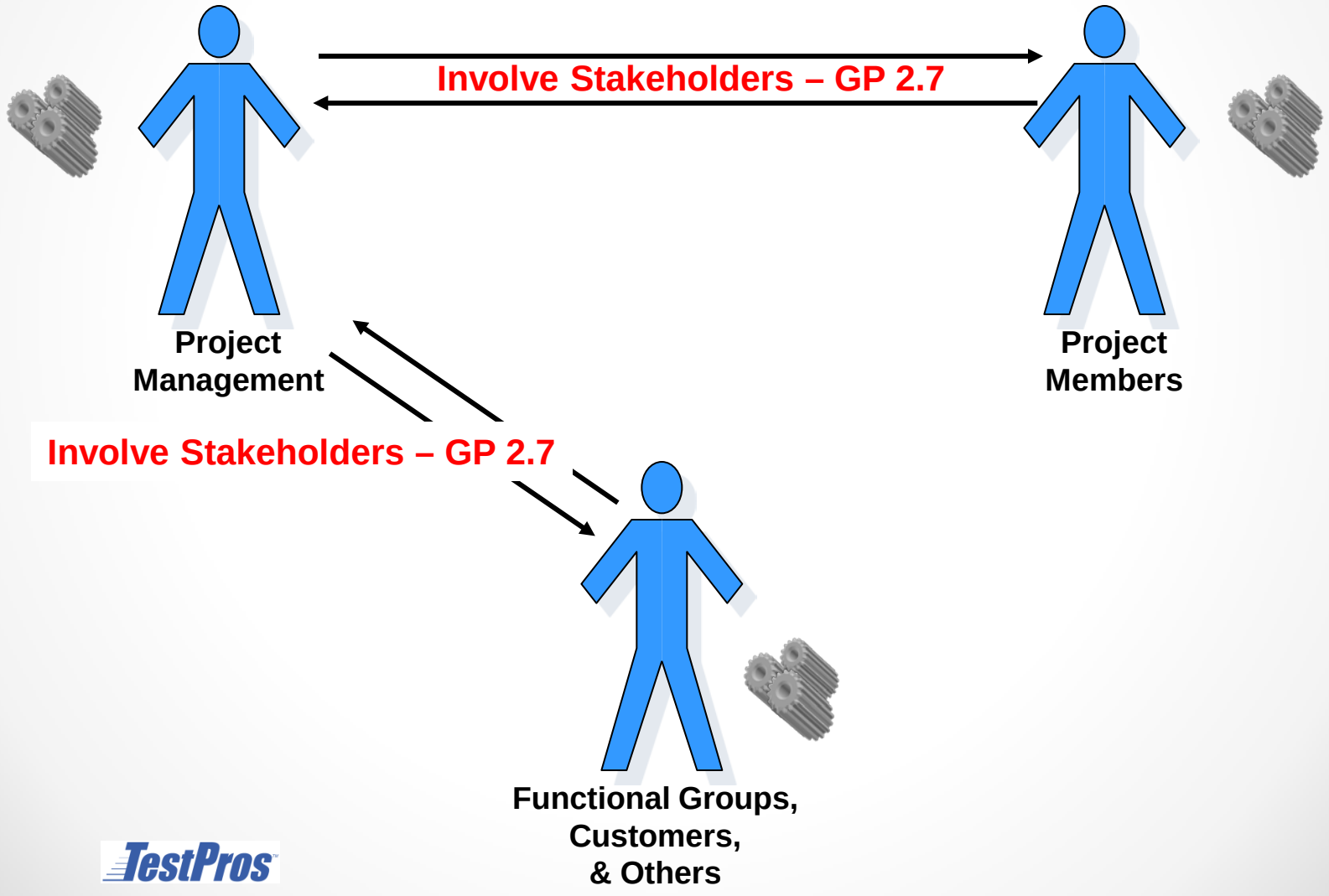
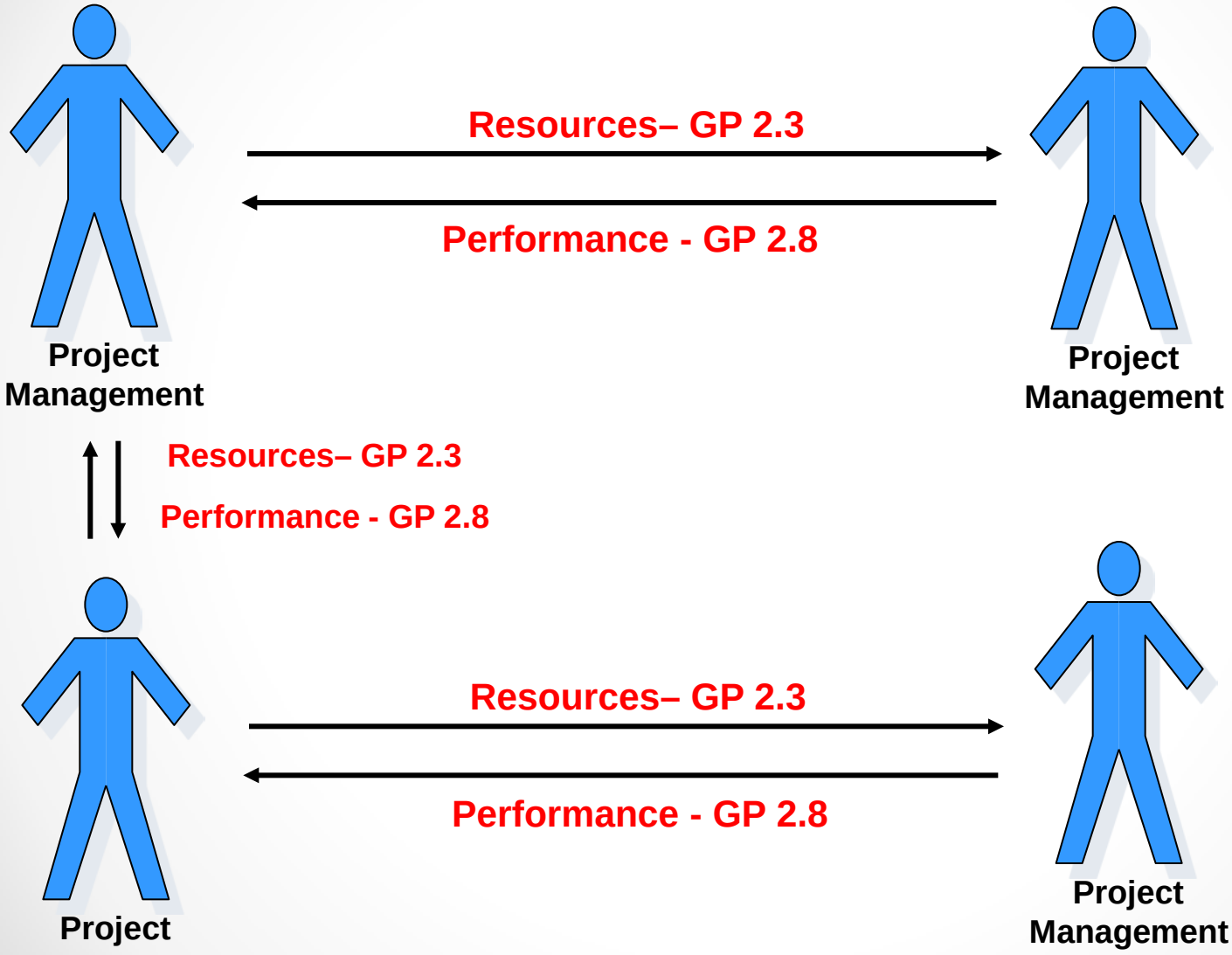
Stakeholders



Tools and Resources



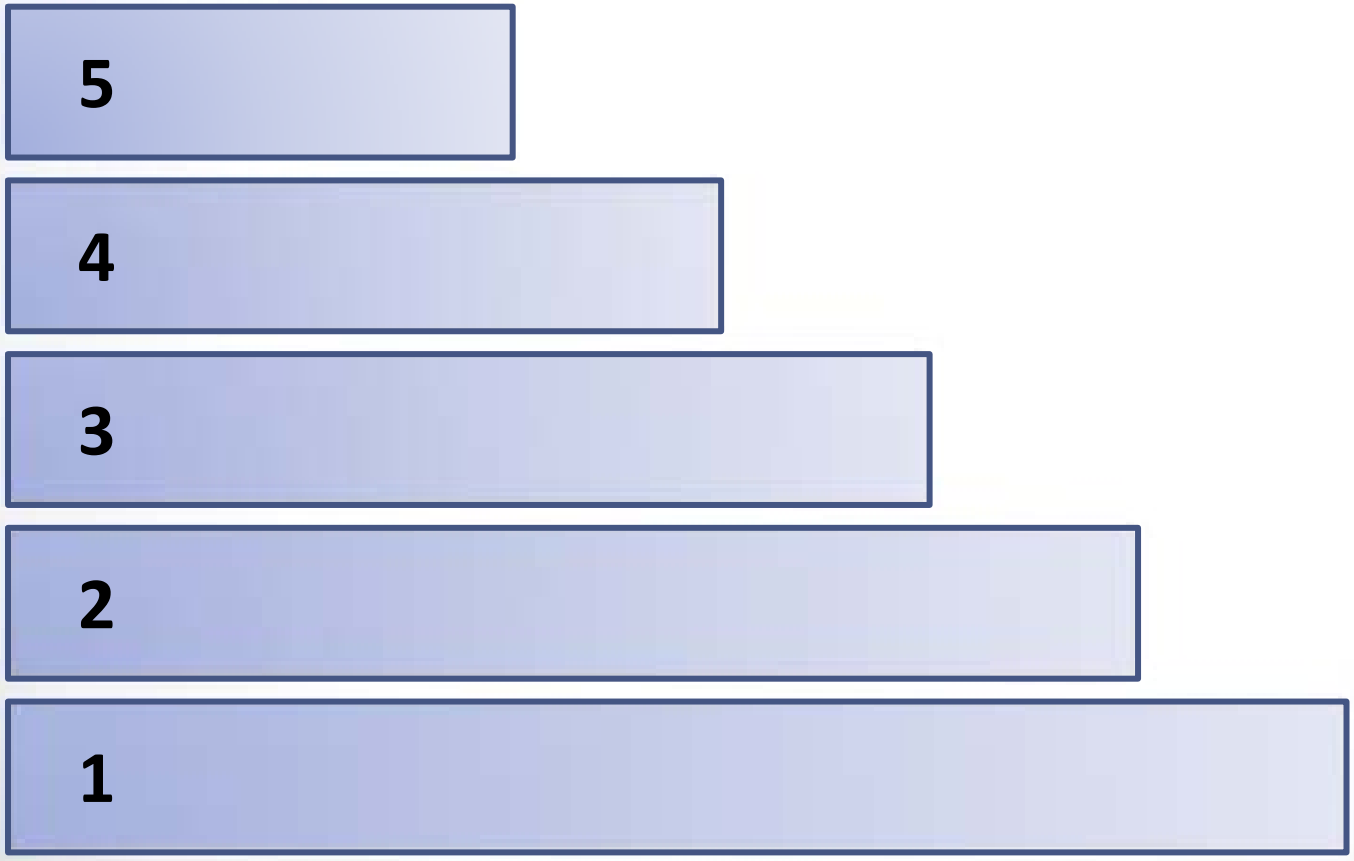
Specific Practices (Very Briefly)

Specific Practice Examples

- DAR.SP1.6 Select Solutions "Document and communicate to relevant stakeholders the results and rationale for the recommended solution."
- IPM.SP2.3 Resolve Coordination Issues "Communicate issues to relevant stakeholders."
- MA.SP1.4 Specify how measurement data are analyzed and communicated; SP2.4 Communicate Results
- OPF.SP3.1 "…deployment of process assets include…identifying how changes to organizational process assets are communicated."
- OPM.SP1.1 "quality and process performance objectives may need to be created or maintained and re-communicated."
- PMC.SP.3.1 Monitor Project Risks "Communicate the risk status to relevant stakeholders."
- PPQA.SP.2.1 Communicate and Resolve Noncompliance Issues
- RD.SP.3.2 Establish a Definition of Required Functionality and Quality Attributes "This functional description…communicates the manner in which the product will be used."

Insights and Issues

Communications and Maturity Levels



Issues with CMMI Application

- Typical Noisy Errors
  - Confusing the model with process
  - Neglecting the bottom line
  - Compartmentalization of improvement efforts
  - Maturity Level Mandates
- Common consequence: inability to measure and discuss impact of changes (empty communication)
- Usual Outcome: using the documentation (medium) as indicators of success

How Issues Arise

- Encoding, decoding, context issues often are intangible
- The medium is tangible and attracts attention
- The “medium over message” syndrome surfaces
- Focusing on the medium can aggravate noise issues, resulting in a vicious cycle

Solution: Focus on Communication

- The model implies all components of communication loops
- The model doesn't tell us specifically what we should say
- The model does indicate what we should be able to communicate about
  - Model as prescriptive method => noise
  - Model as diagnostic => real communication loops

Summary

- The CMMI describes communications, both explicitly and by implication
- Media is a critical element, but not the only one
- The media serves the messages in communication
- Improper focus on the media may distort or completely subvert the message
- Understanding complete communication loops and how the CMMI relates to them preserves the critical messages