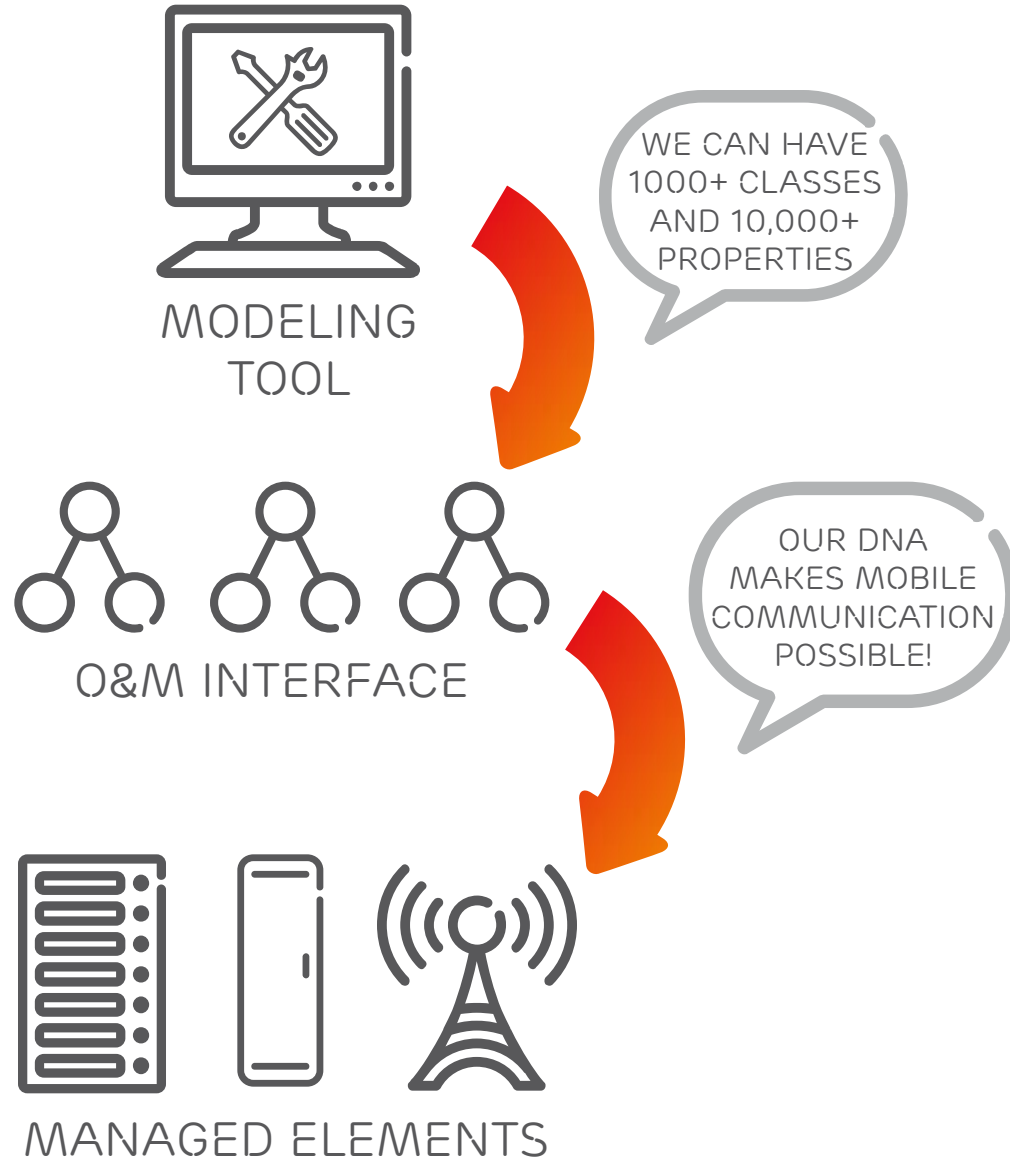




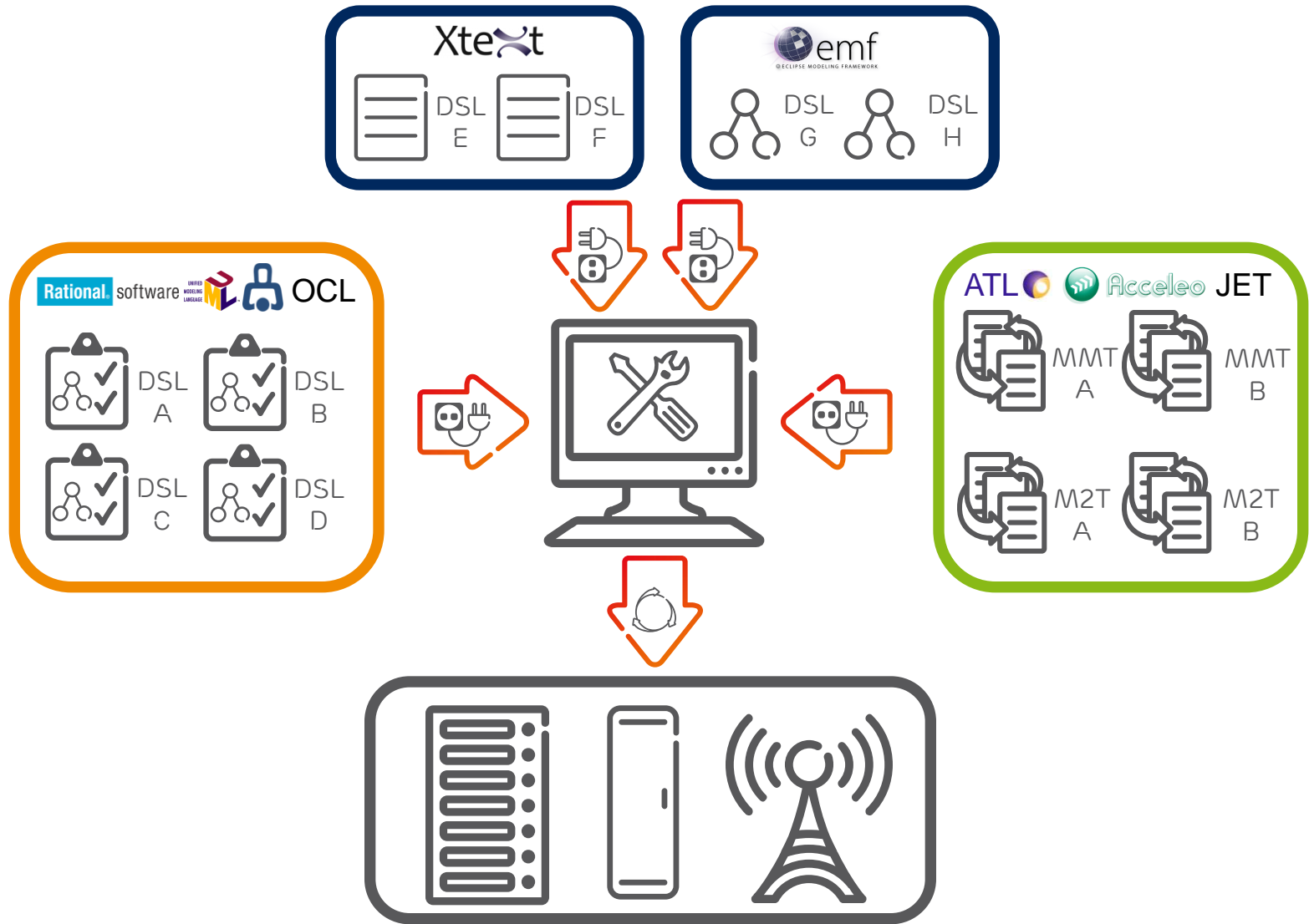
WIKILEAKING ECLIPSE MODELING - SPILLING THE BEANS ON  
HOW INDUSTRY USES EMF BASED TOOLING SUCCESSFULLY!

RONAN BARRETT, ERICSSON

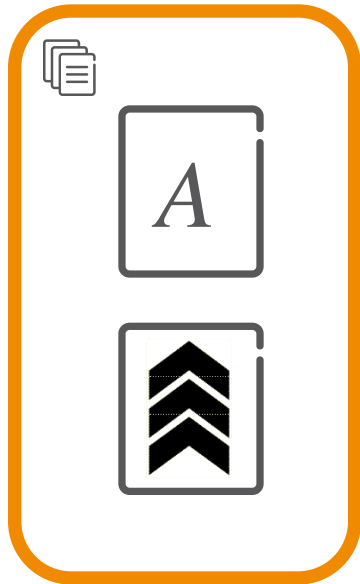
# THE USE CASE



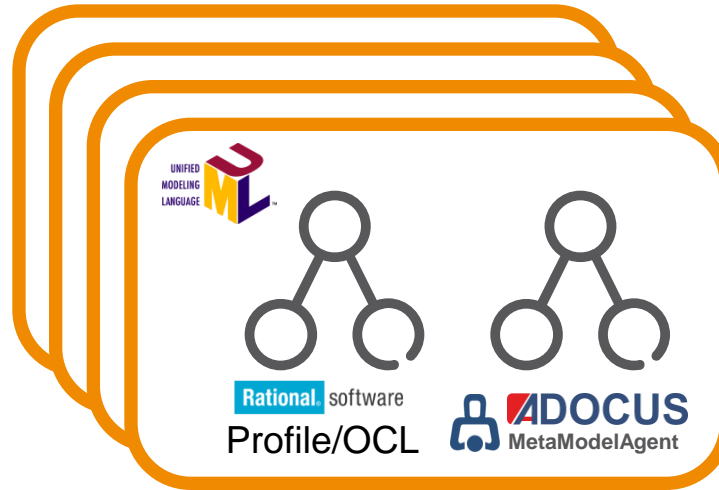
# THE TOOL



# CREATING DSL(S)



META-MODEL



- UNIFIED MODELING LANGUAGE PROFILE
- UNIFIED MODELING LANGUAGE GUIDELINE
- UNIFIED MODELING LANGUAGE MENUS
- WIZARDS
- EDITORS
- VIEWS
- VALIDATION
- QUICK FIX

# DSL BEAN SPILLING



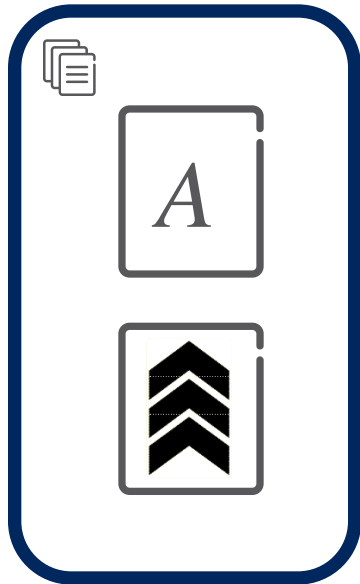
- Guidelines models are quite complex to create
- Must expose pathmap using `org.eclipse.emf.ecore.uri_mapping` extension point
- Papyrus/OCL integration not in place (Bug 340853)
- Papyrus usability issues



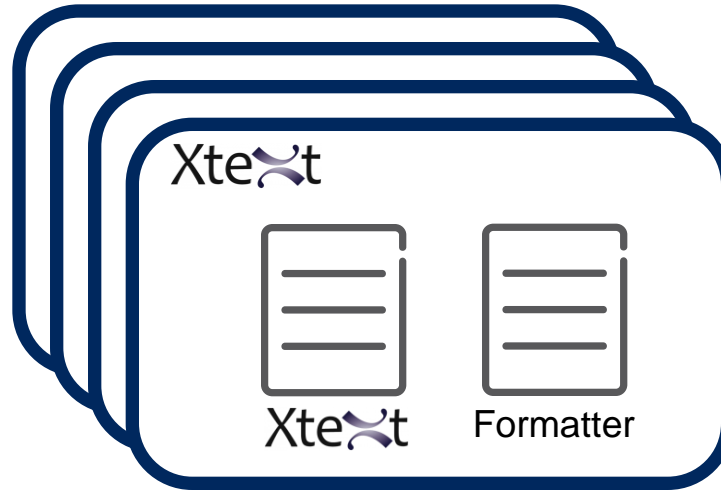
- MMA guidelines can be extended/overridden
- Context sensitive menus/wizards/views generated
- Less customization plugins needed
- RSA/MMA play nicely with open source projects
- Papyrus looks promising with very rich feature set



# CREATING DSL GRAMMARS



META-MODEL



# DSL GRAMMAR BEAN SPILLING

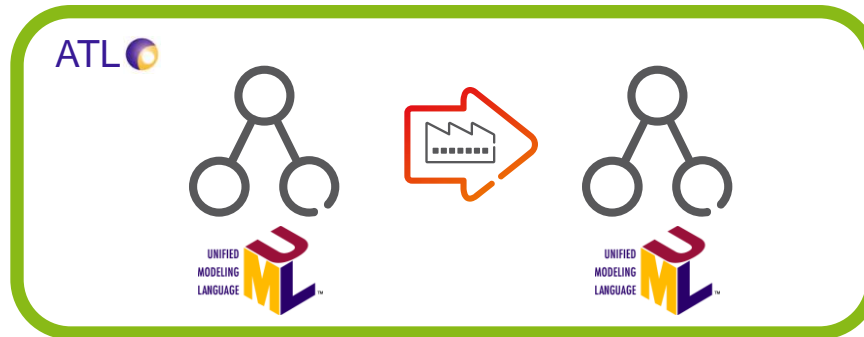


- Xtext formatters take time to get right
- Lots to learn if something goes wrong (many layers)

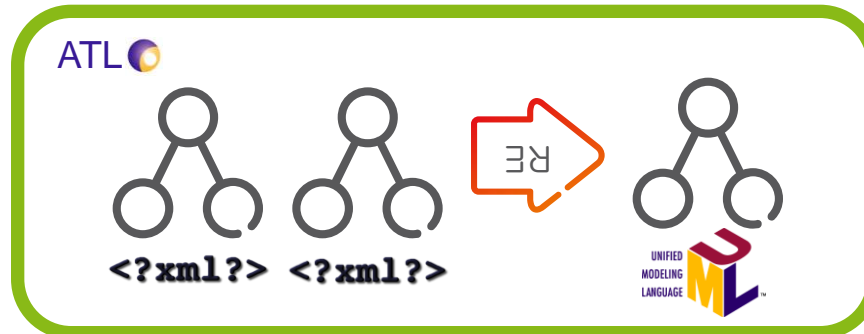


- Xtext has great documentation and tutorials
- Xtext generates EMF resource serialization code
- Seamless integration with Eclipse MMT & M2T
- Xtext supports static analysis of generated models
- Xtext has MWE workflow/Maven integration

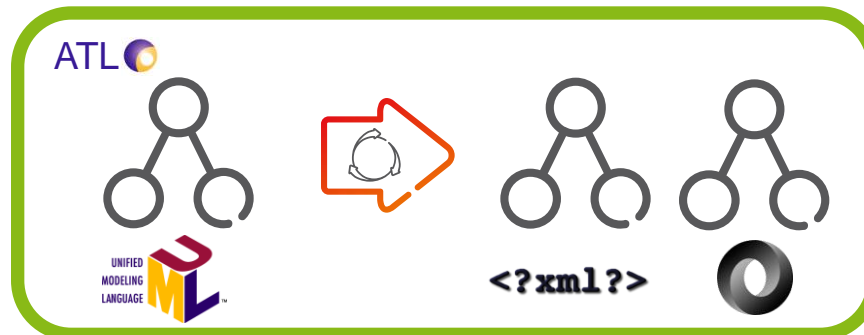
# MODEL TRANSFORMATION (MMT)



"HOT" INSPIRED BY DENNIS WAGELAAR'S UML2COPY.ATL



ATL MODEL MERGE USING MAPS



DTD->XML SCHEMA USING TRANG THEN IMPORT TO EMF



# TRANSFORMATION BEAN SPILLING

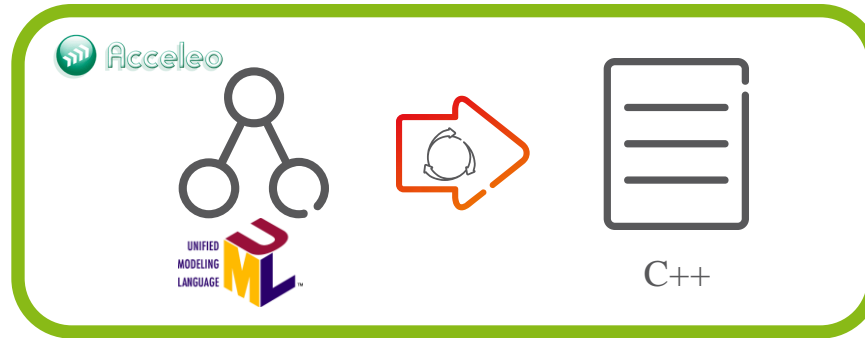


- ATL debugging can be difficult
- ATL error messages are cryptic e.g. (Bug 353313)
- ATL 3.2.1 compile error when comparing > unsigned 32bit numbers (Bug 390548)
- ATL {do} rules always need a return value
- ATL Update Site not kept up to date
- Not so many people know OCL/ATL



- ATL is a super succinct OCL based language
- ATL supports many set types
- ATL supports HOT (ATL generates ATL)
- ATL user guide is really comprehensive
- ATL is very stable with few open bugs
- ATL works nicely with Eclipse UML2
- ATL code is easy to read/maintain

# MODEL TRANSFORMATION (M2T)



# TRANSFORMATION BEAN SPILLING

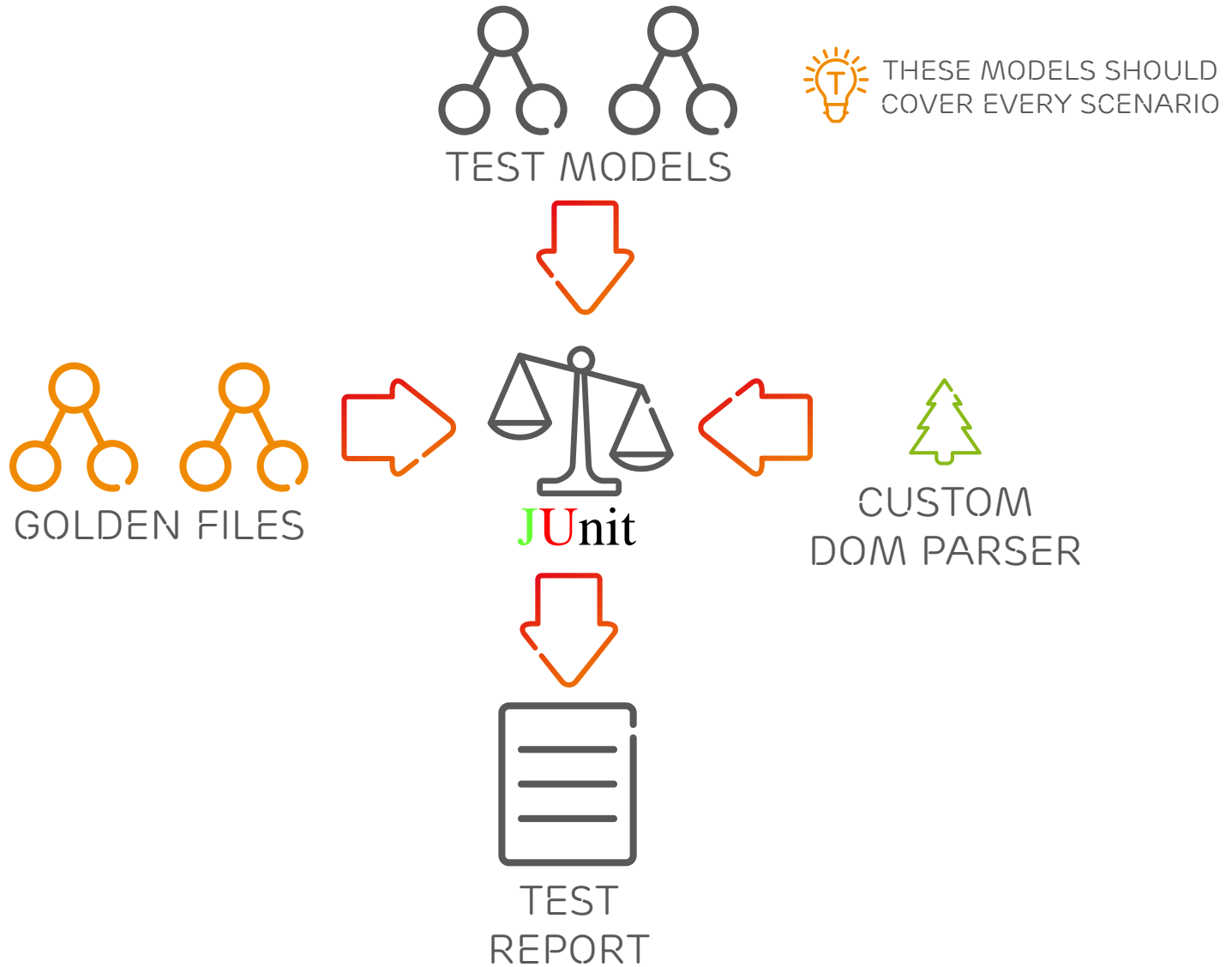


- Acceleo 3.3.0 alters global EPackage registry (Bug 389497)
- JET code is verbose and hard to maintain
- JET doesn't work outside of Eclipse
- Only minor releases of JET since 2009

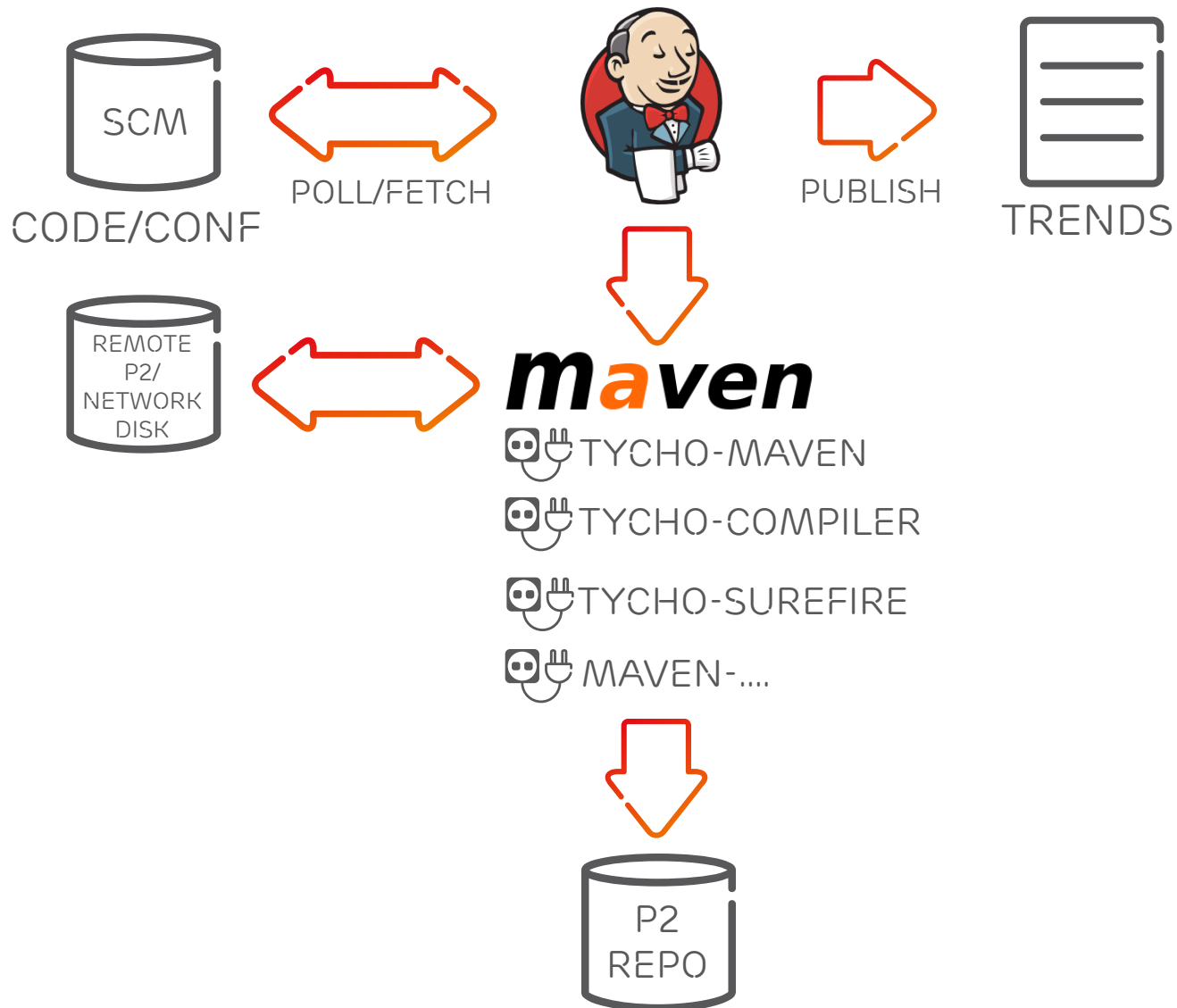


- Acceleo MTL files easy to read/maintain
- Acceleo editor has great UML2 code completion
- Acceleo integrates with Maven
- Acceleo is OMG based with good documentation
- JET is easy to learn if you know JSP

# TESTING



# BUILD AUTOMATION



# FINAL OBSERVATIONS



- Model dependencies difficult to resolve with Maven
- High comprehension barrier of entry to EMF world
- EMF ResourceFactory(s) are tricky to write
- Inconsistent quality of documentation
- Not all project roadmaps are clear
- Not always clear if/when bugs will be fixed



- Tycho provides excellent Maven/Junit integration
- Quality of most Eclipse modeling projects is high
- Small teams can achieve high productivity
- Newer versions of projects work with older Eclipses
- Eclipse UML2 brings better UML tool interoperability
- 3PP tools play nicely with open source projects
- Industry are involved via Polarsys collaboration

# QUESTIONS





**ERICSSON**