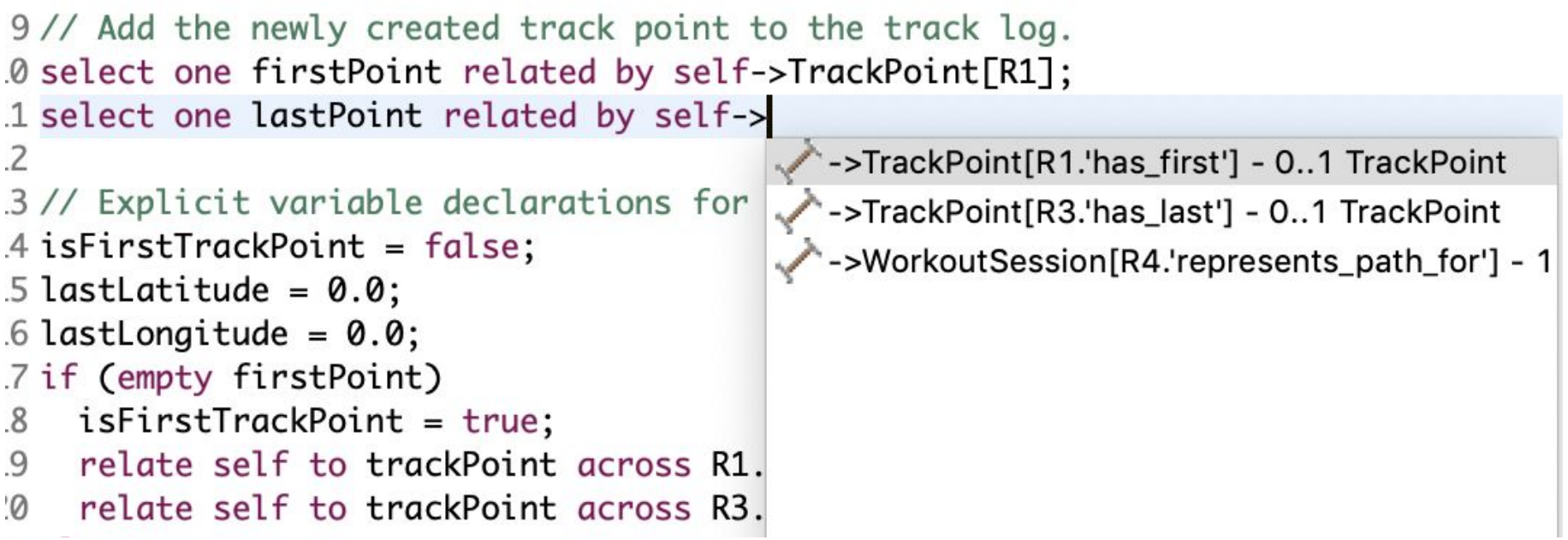
BridgePoint Show and Tell



October 2018

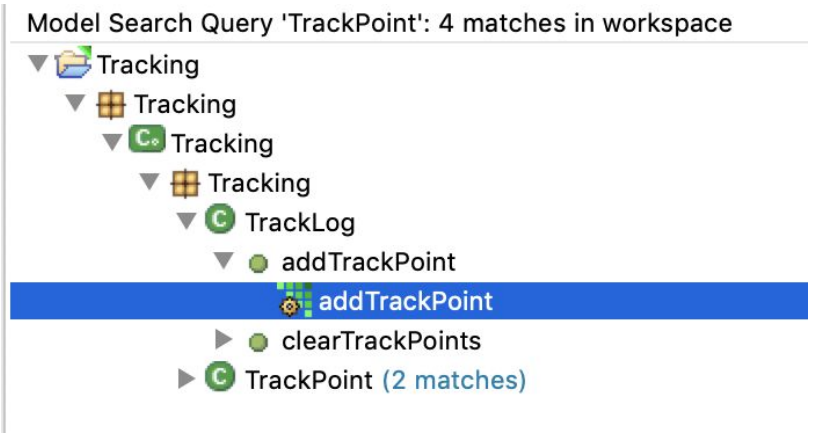
OAL completion assistance (last year)

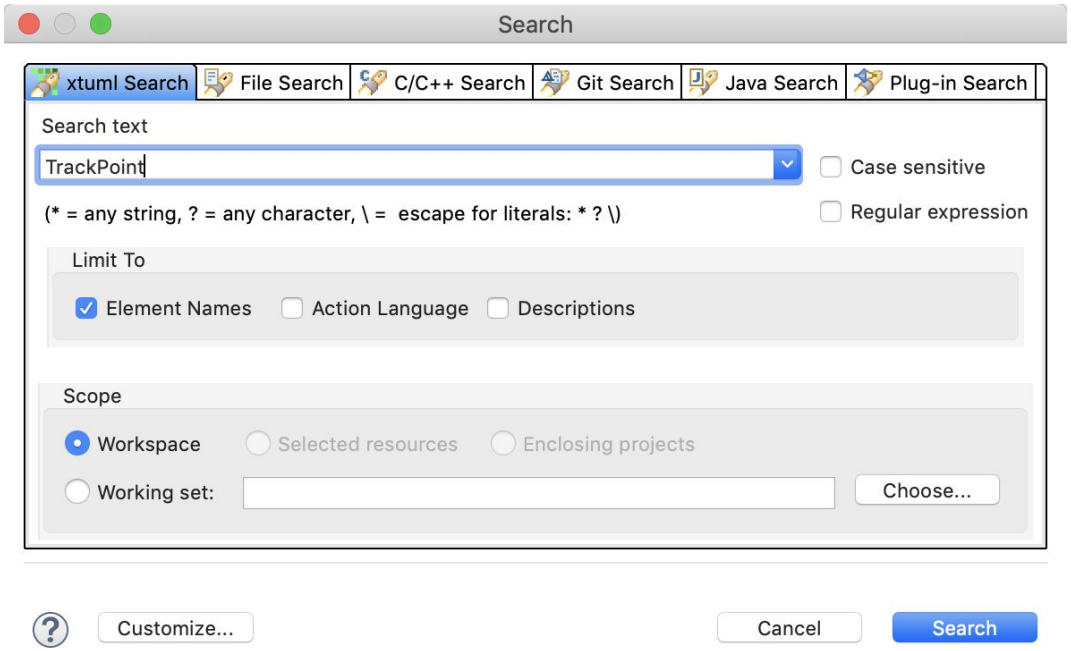
- Get completion proposals for a wide range of model elements
- Can be invoked automatically by trigger sequences or manually by a keystroke



Structural search

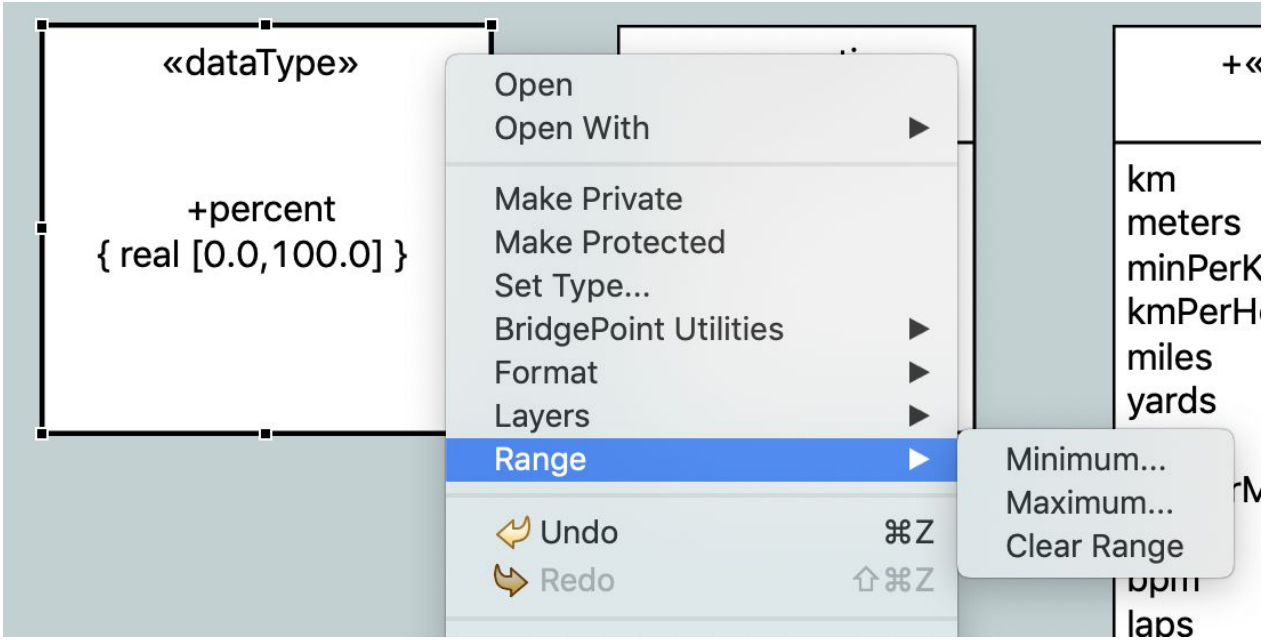
- Previously, search was available only for action language and element descriptions
- Structural elements have been added





Ranged data types

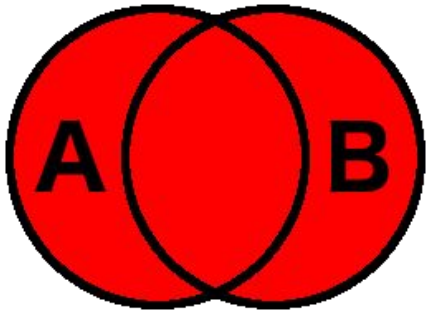
- Ranges are allowed on user data types based on numeric data types
  - Integer, real, enumerated types supported
- Analysis has been performed on the work required to enforce ranges in MC-3020 and Verifier



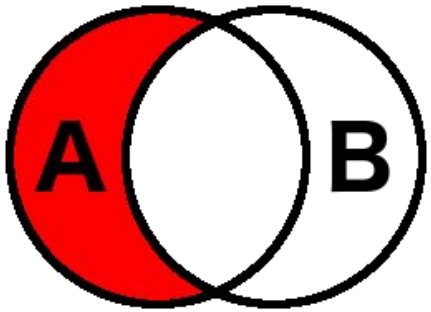
OAL set operators

- Set operators have been added to OAL
  - Union, intersection, difference, and symmetric difference are supported
- Supported by Verifier and MC-3020

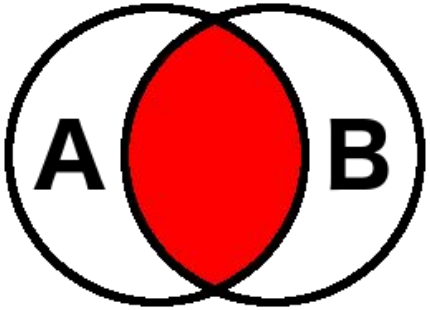
- **A | B**



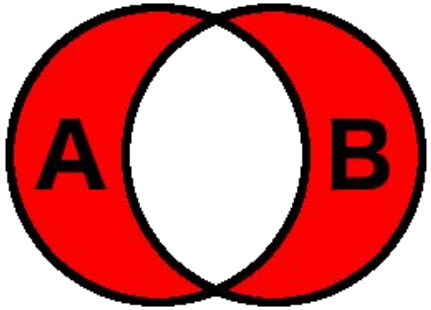
- **A - B**



- **A & B**

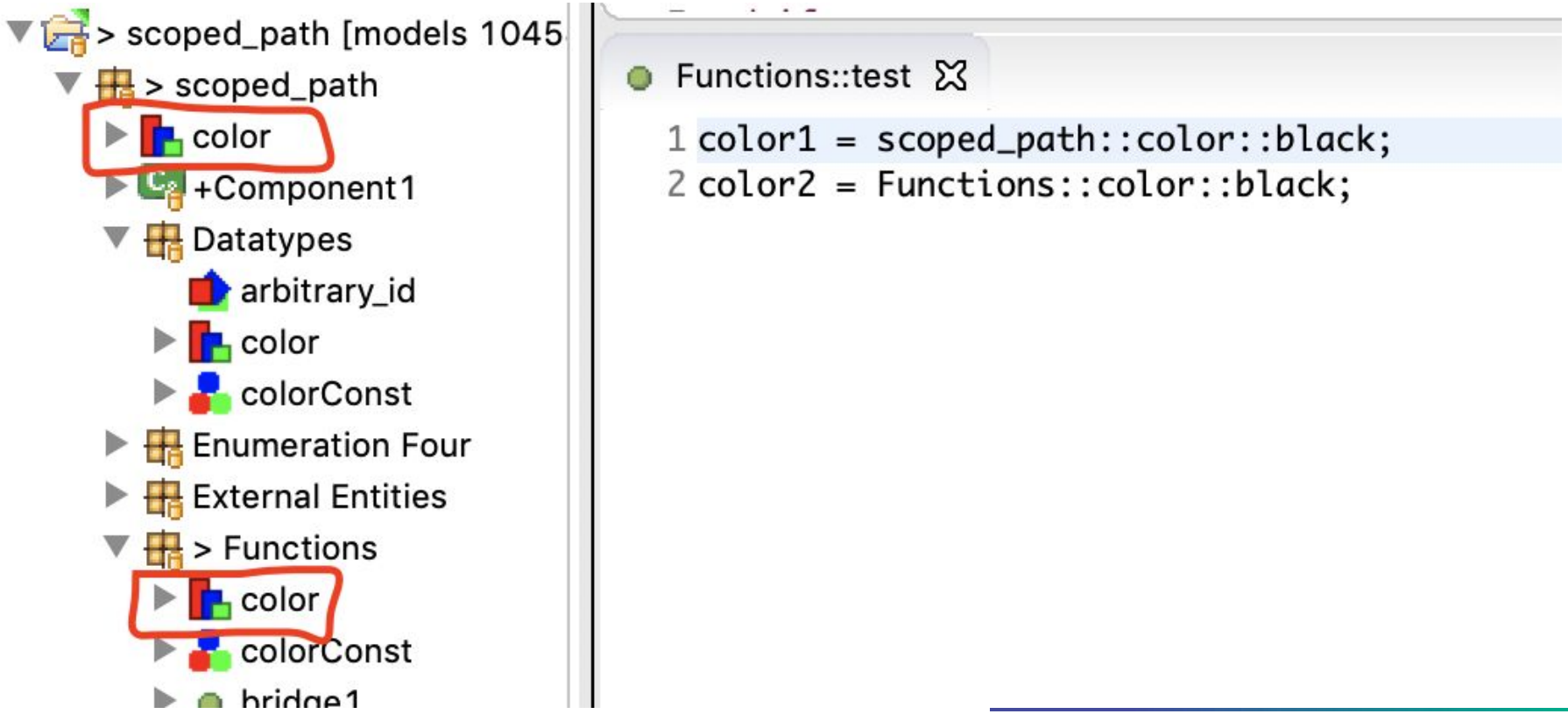


- **A ^ B**



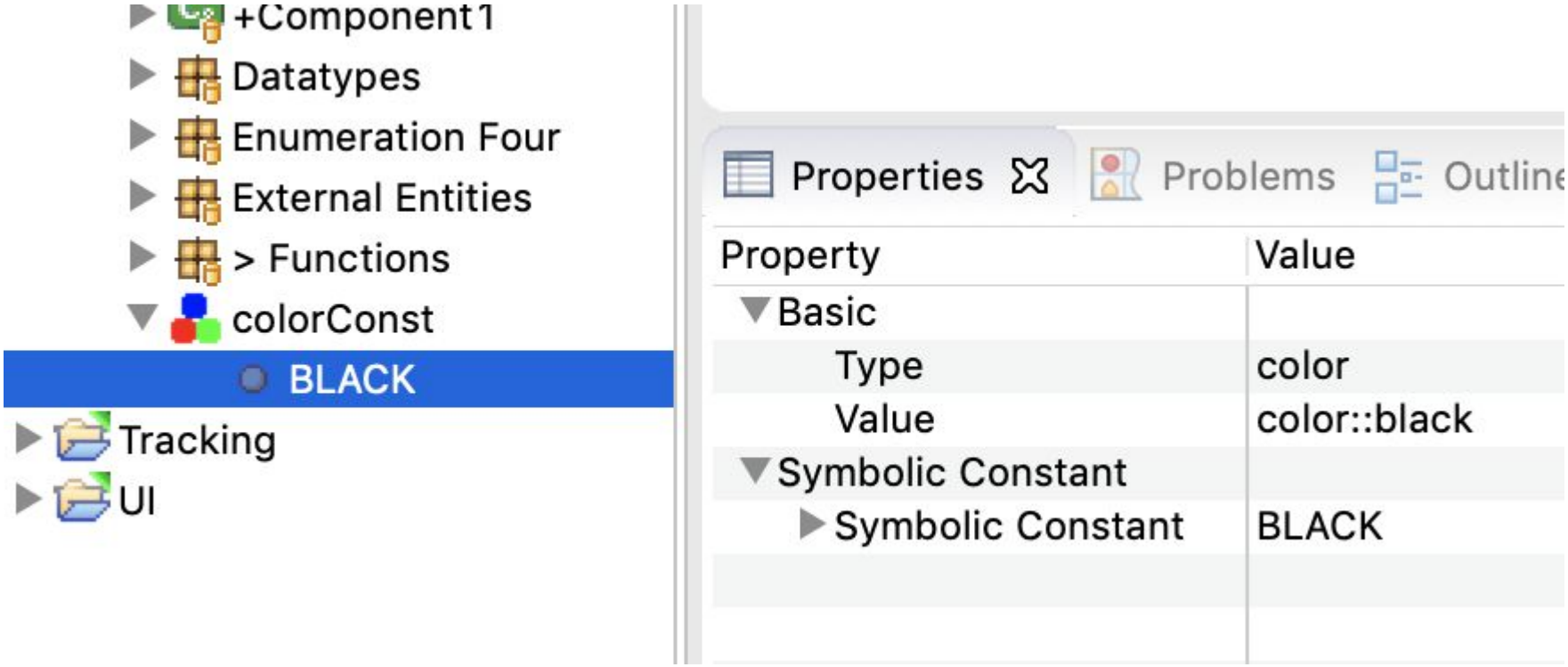
Scoped data type references

- Scoped access syntax was added to OAL
- Enumerator values can be qualified by path if two EDTs exist with the same name



Constants based on UDTs

- Symbolic constants can now be assigned user defined types which are based on legal types
- Validation supported by the editor



Simulated time

- Simulated time already supported in Verifier
  - Instead of real time being used, timers are fired in logical order based on time values
- Simulated time now supported in MC-3020 through a mark



State save

- New feature added to MC-3020 to persist and transmit current state of a system
- Number of instances of each class and current state of each class captured
- Designed for channels with low throughput



source: https://worldview.space/

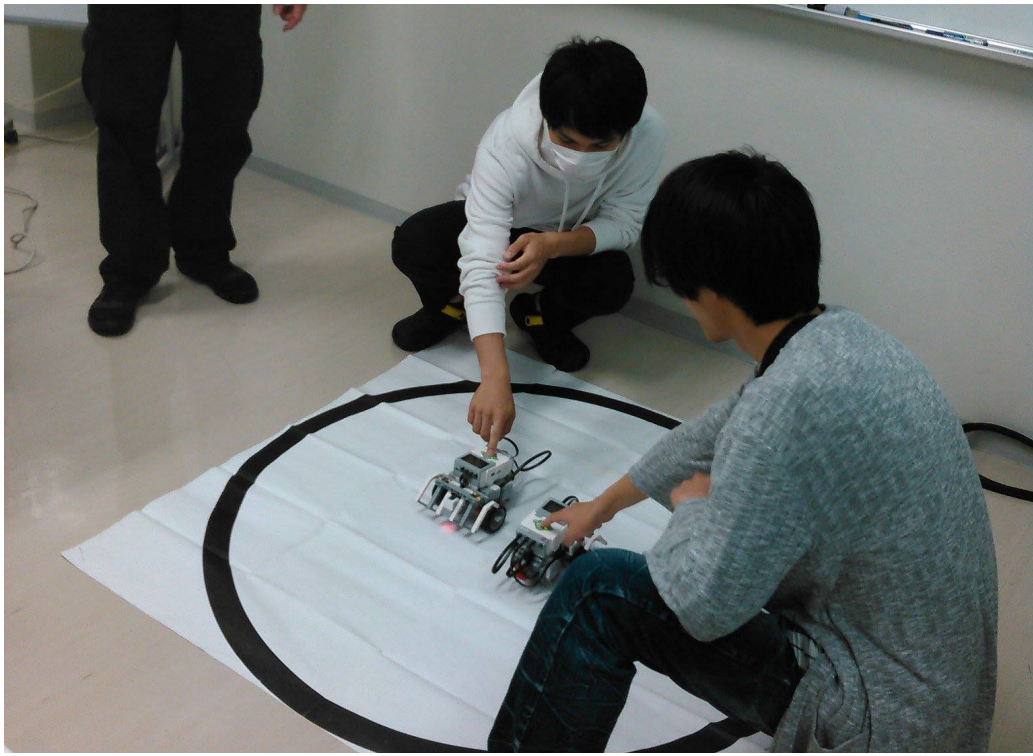
MC-3020 features and bug fixes

- Interface messages safe for interrupts
- Keyed timers
- Reflexive associative relationships (loading)
- Current state (changed before action rather than after)
- Poly to subtype (not supported so flagged as error)
- Persistence (NVS)
- Extraneous parens bug
- Class specific tracing
- 20 years and still improving!



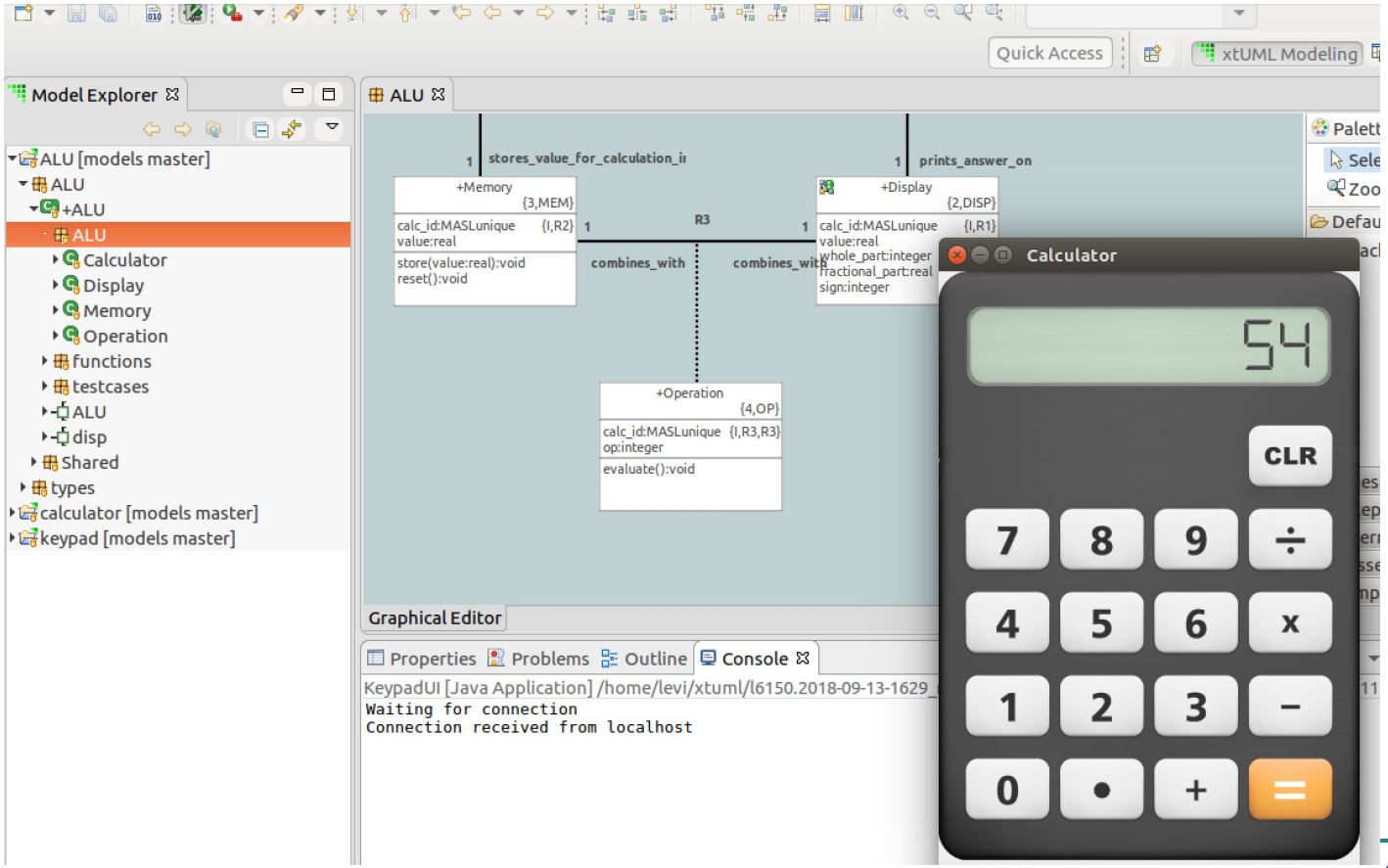
MCLM and EV3RT

- MCLM (Model Compiler LEGO Mindstorms) brought up to date with the latest version of MC-3020
  - MCLM was based on a version of MC-3020 from mid 2016
- The sumo robot application was revived and updated to work with EV3 and MCLM on the EV3RT platform
  - The model and platform were used for a two week modeling course at Shinshu University in Nagano



MASL reference models

- GPS Watch example
- “pei” model
- Calculator example



MASL coverage tool

- Estimate the percent of the meta model covered
- Identify elements that are not covered

```
410 ___ info ___ coverage:  50 / 61 = 81 %
411 ___ info ___ coverage map:  <******* ****** * *   ****** ****** ********* **** *** *******>
412 ___ info ___           key:   aRaaRRRRcRRcRdReRReReiRoRoRRpRpRRRprRrrRRrRRRsRsRstRtRRtRRRRR
412 ___ info ___           key:   c3st3333e33o3o3v33x3xd3b3p33a3a333re3ee33o333t3t3ue3y33y33333
412 ___ info ___           key:   t7st7777l77d7m7e77c7pe7j7e77r7r777of7gl77u777a7a7br7p77p77777
412 ___ info ___           key:   i0or0114l34e9a0n23e4rn1e0r49a0t121je4ua11t999t5t3sm0e44e10234
412 ___ info ___           key:   v5ci9075 13_4i1t76p8et1c8a93m6i405er4lt23i012e0e4ui2r12 94126
412 ___ info ___           key:   i ib       b n    t si t t  e c   ce ai  n     _ pn e
412 ___ info ___           key:   t au       l      i sf   i  t i   tn ro  e     m ea f
412 ___ info ___           key:   y tt       o      o ii   o  e p    t rn        a rt
412 ___ info ___           key:     ie       c      n oe   n  r a    i es        c  o
412 ___ info ___           key:     v        k        nr        t    a lh        h  r
412 ___ info ___           key:     e                           i    l  i        i
412 ___ info ___           key:                                 o       p        n
412 ___ info ___           key:                                 n                e
Done.
```

Bug fixes (6.8, 6.10, 6.12, 6.14)

Bug #8652: Reconcile outstanding changes for p
Bug #8897: Graphical representation of the a dc
Bug #8934: Graphical Issues With Editor
Bug #9570: Improved BridgePoint delivery mecl
Bug #9571: Enhanced OAL Editor (phase 1)
Bug #9575: Interface message parameter attrib
Bug #9617: Error Importing Domain using CLI
Bug #9674: Document mcmc build for mac
Bug #9675: Update plugin info on xtext plugins
Bug #9718: Testing for Enhanced OAL Editor ph
Bug #9720: Include Maven2Eclipse (m2e) plug-i
Bug #9745: Stop building some Windows editior
Bug #9749: Determine use cases for OAL autocc
Bug #9750: Develop test matrix for oal autocom
Bug #9751: Using test matrix implement tests f
Bug #9758: Problem with parameter name
Bug #9761: AE8-When a variable representing a
Bug #9762: AE9-When a declaration is found us
Bug #9763: AE3-Context-sensitive completion a
Bug #9764: unable to build integrity checker
Bug #9801: Declarations created for non-existin
Bug #9811: Install xsltproc on build server imag
Bug #9814: Move location of Cardinality CME
Bug #9830: get rid of extraneous characters
Bug #9831: Cardinality modification menu shall
Bug #9832: Move relation unformalizes and doe
Bug #9835: Update Windows Integrity Checker
Bug #9849: v6.8 Release Prep
Bug #9856: sort integrity test results
Bug #9860: vitalsigns cleanup
Bug #9909: Enable "Parse while editing OAL activities"
Bug #9910: Content assist after "generate" does not add a space
Bug #9912: Content assist hangs in oal_open_declarations model
Bug #9914: string_return_test invalid builders
Bug #9915: No build without tools/mc/bin/mcmc
Bug #9933: Remove confusing quotes in mark_pass
Bug #9934: Code gen issue with generator 1.0

Bug #9050: Element order is inconsistent between ME and canvas for constants
Bug #10116: instance is already related when using interpret-based mc3020
Bug #10153: StackOverflowError (Model Explorer view won't load)
Bug #10161: Tool Locked Up While Exporting Domain
Bug #10166: MASL calculator updates
Bug #10168: Increment version to 6.13.0
Bug #10169: MASL compiler issues
Bug #10170: MASL compiler generates a copyright notice
Bug #10171: Deprecate 'function' keyword
Bug #10172: Header is not visible when using types from another domain
Bug #10173: Hand craft code handling with the MASL compiler
Bug #10174: Search of xtUML struct
Bug #10175: Constant based on use
Bug #10176: Ranges of Data Types
Bug #10177: Not possible to specify
Bug #10180: exporter generates ter
Bug #10183: Cannot use UDTs in te
Bug #10184: Show file name with M
Bug #10196: Improve error reportin
Bug #10199: masl_round_trip restar
Bug #10202: Update welcome plugir
Bug #10204: update mc3020 to pyr
Bug #10208: Update pyrsl from v2.0
Bug #10209: MC-3020 produces inv
Bug #10216: add Einstein's Riddle to
Bug #10221: Analyze UDT range ent
Bug #10222: User's guide for testru
Bug #10250: v6.14 Release Prep
Bug #10256: Data type scoping issu
Bug #10259: GPS Watch README is
Bug #10260: GPS Watch won't build
Bug #10261: Update SAC_PROC test

Bug #8306: Combining referential attributes caus
Bug #9283: Abstract and Concrete Polymorphic E
Bug #9699: Required Operation MASL Editing Not
Bug #9700: Inconsistencies with file contents and
Bug #9709: Subtype appears in mod file before s
Bug #9710: When polymorphic events are change
Bug #9836: Cannot merge referential with identif
Bug #9877: mcmc on mac requires flex
Bug #9913: extra attribute after paste of subtype
Bug #9932: Dumping MASL project only produces prj file
Bug #9935: OAL content assist raises selection list at end of comment
Bug #9939: Pasting a class in a package does not update class number
Bug #9948: Bi-directional synchronization of MASL data can lead to problems
Bug #9989: type export needs to be ordered
Bug #9990: Utility to create interface messages from domain functions and c
Bug #9994: typo in TE_C_sort routine of C MC
Bug #10007: Analyze missing keywords in content assist
Bug #10009: Incorrect population of parameter list for class-based operation
Bug #10013: support multiple format characters in the template engine
Bug #10014: Publish to interface duplicates should append "_X" not "-X"
Bug #10022: Content assist for relate statement
Bug #10027: Test test_G_ALL_nested_invoke in IOMdlTestGenerics fails
Bug #10028: v6.10 Release Prep
Bug #10030: Address failures in Junit Tests
Bug #10031: Add more detail to help for "Publish to Interface..."

Bug #9021: Improve mechanism for inter-domain references
Bug #9322: Document types
Bug #10042: Change default for "Allow operations in where c
Bug #10044: Polymorphic creation events cause round trip to
Bug #10046: Update the developer virtual machine
Bug #10052: Create coverage tool
Bug #10053: PEI Model to MASL
Bug #10107: Issues in calculator test model
Bug #10108: Update MASL Conversion Guide
Bug #10120: Valid syntax causes problems with parser and e
Bug #10123: Update Preferences help documentation
Bug #10128: Documentation issue for tables that want to dis
Bug #10132: Malformed for loop causes tool hang
Bug #10136: Create calculator MASL reference model
Bug #10139: Published interface operations have wrong diale
Bug #10150: MC-3020 fails to translate referential attributes
Bug #10155: Multiple projects depending on same INT file no
Bug #10156: Support export of public EDTs for MASL
Bug #10163: v6.12 Release Prep



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