

# UNICOM<sup>®</sup> *System Architect*<sup>®</sup> Time Line



# SA 2024 – V11.4.11 (Released October 2, 2023)

- Customer Journey Maps & Ideas Capture
- Modeling Enhancements – All Frameworks
- Pseudo Names for Reference Documents
- Metamodel Diagram: Finding All Symbol Types on Diagrams that Represent a Definition
- CSV Import – Renames
- Performance of Diagram Open
- Analytics – Analytic Icon Set
- More Intelligent Deletion of Box-in-Box
- SA XT Enhancements

# 11.4.10.2 (Released May 3, 2023)

- **TOGAF 10 Enhancements:**
  - Value Stream diagram, Environment & Locations diagram, Project Context diagram
- **Ports for DoDAF 2, UAF, NAF**
- **New Color Picker Technology**
- **SA Diagramming Enhancements**
  - "Remove All" and "Cancel All" options for deleting symbols
  - Options on Moving Contained Symbols
  - 'Mona Lisa' button Enhancements
  - Displayable Property Style-sheet Enhancements
  - Pen Width Enhancement
  - SA Explorer: Launch Properties Dialog for a Diagram Without Opening It
  - Opening Diagrams to External Windows via References
- **Customizable Metamodel Enhancements**
  - Ability has been added to hide the key of an object in the Choices list
  - GUID String is Now Displayed After the Name
- **SA XT User Experience**
  - Modal dialogs introduced to perform tasks versus opening the dialog in a new browser
  - Mouse scroll Now Scrolls the Diagram
  - Right-click context menu will not appear beyond the visible space when clicking close to window edges
- **Beta of Image Recognition Importer in SA XT**
- **SA REST & SA BI Enhancements**
  - SA REST URL timeout so SA Business Intelligence (BI) won't time out for large metamodels
  - SA REST authentication through Service Account

# 11.4.10.1 (Released February 13, 2023)

- UAF 1.2 – Update to UAF 1.0 support
- “Magic Line” – new intelligent draw functionality added to every diagram
- “Help Me Pick a Line” Enhancements
  - Now pre-filters the options for what line types you can choose, based on what symbol you have selected
  - Dialog that presents line type options has improved sorting and the connection data presented is permanently cached so that it does not take a long time to collect on complicated diagrams
- Line Routing Enhancements
  - Two new preference options available for controlling the default state for diagram auto-routing and assignment of connections – by selecting Tools, Preferences
- Floating Diagram Enhancements
  - Position of all open (floating) Explorer windows & all open (floating) external Framework windows are now remembered across sessions & change of encyclopedia & workspace
- Quality of Pictures on Diagrams
  - Improved quality of pictures of diagrams that you can place on a diagram to get a 50,000-foot view
- “Show Me the Metamodel” Enhancements
  - automatic Meta Model diagram has been enhanced so that it no longer shows two lines for mirrored relationships, which created a diagram with more lines than needed
- SA XT Usability Enhancements
  - SA XT Navigation: You can now customize which links are shown in the SA XT header bar via an XML element in the PageFile
  - SA XT Home Page Dashboard Widgets: You may now add a section to home page

## 11.4.10 (Released October 18, 2022)

- Frameworks: TOGAF 10 Support
- Usability: Apply Custom Graphics
  - Drag-and-drop images from your Windows environment onto System Architect diagrams where they become symbols – you are now provided with a choice to copy the symbol or import it into the Files table of the encyclopedia
  - Depiction override can now be specified at definition level through property in Depiction tab
  - New Picture Browser dialog allows selection of pictures for drawing on the current diagram
- Usability – File Manager
  - Image thumbnails are now presented for SVG and PNG files
  - File Manager window can now be stretched, & provides a filter for types of files presented
- Usability – Explorer
  - New Configure Tabs option has been added to the Explorer tree
- Analytics
  - Analytic icons can now be centered on a symbol edge
  - SVG and PNG icons now presented in the Heat Map Manager and Analytic Builder Wizard
- Metamodel Diagram – Dialog to choose related types
- Harvest: Enhancements to Visio Mapper
- Web Reporting: Dashboard Enhancements
  - Bubble Charts, Tree Map, Gantt Charts; D3 gadgets updated to V7
- Partners: Encryption for USRPROPS

# 11.4.9.2 (Released May 3, 2022)

- Frameworks: sysML/UML 2.5 Enhancements
  - Binary Association, Connector, Extension and Information Flow lines can be drawn as single line symbol even though it is really a multi-part join
  - Binary Associations can be drawn between types, ports and properties
- Usability: Apply Custom Graphics
  - Names and graphic comments of symbols are now automatically positioned outside a symbol when turning on Depict as Alternate Symbol
  - Transform Symbol command allows turning picture into definition
- Usability: Diagramming Enhancements
- Usability: Multiple Parents in Hierarchy
- Analysis: Explorer Diagram Enhancements
- Performance: In SA and SA XT
- Communication: SA Pub Enhancements
  - New "Tabbed" output stylesheet
  - SA Publisher output of any report using lists.xsl now allows users to sort by each column header, enable paging, and instant search for their output table
- Integration: OSLC Global Config Phase 3

# 11.4.9.1 (Released February 14, 2022)

- Frameworks - sysML 1.6 and UML 2.5 additions: Parametric diagram, State Machine diagram, Use Case diagram, & Requirements diagram
- Frameworks – DoDAF 2 & UAF Enhancement: create instances of definitions from node-type symbols by right-mouse clicking on a symbol on a diagram
- Usability: Symbol Depiction override set thru property in the Symbol Tab
- Usability: Center-to-Center Routing can be set as default for all new diagrams via an option in the Tools - Preferences dialog
- Usability: Port Symbols can be auto aligned on the edge of the symbol
- Usability: Find Symbol dialog can handle multiple selections & zoom to the view
- Usability: Better routing of lines when moving Lanes/Pools for BPMN
- Usability: Explicit relationship Definition-type nodes on Explorer diagram can be merged in the same fashion as Group node
- SA XT now supports stereotype-driven graphic icons
- Metamodel Extensibility -- Support for 100 more user diagram types and 700 more user symbol types

# 11.4.9 (Released October 6, 2021)

- Roadmap Marker diagram introduced
- Enhancements to sysML 1.6 and UML 2.5
- OSLC Global Configuration support – Phase 2
- CSV Import – improved functionality for automatic import CSV files at encyclopedia-open time based on encyclopedia settings
- Usability – Zoom & Scroll on Diagram Preview pane
- Usability – Diagrams Can Open to Moveable Windows
- Usability – Multiple Reference Panes
- Usability – Launching Macros by Right-Mouse Clicking on Symbol
- Frameworks - Entity Relationship Diagram Simple View
- Metamodel Language - Hover\_Help
- Metamodel Language – Zoomed
- Explorer Diagram enhancement – Merging of Group Symbols
- Explorer Diagram enhancement – Option to Remove Immediate Relatives
- Matrix Designer Enhancements
- Web Client - SA XT Guest User Account
- Web Client - SA XT Web Drawing Performance
- Web Dashboards - SA XT D3 Charting
- Web Reporting - SA XT Reporting GUI, Include Subtypes



# 11.4.8.2 (Released May 6, 2021)

- Integrations -- Initial Support for OSLC Global Configurations
- Frameworks – sysML 1.6 and UML 2.5 – Phase 3 of support
- Frameworks – ArchiMate 3.1: ArchiMate support has been updated from ArchiMate 3.0 to the ArchiMate 3.1 metamodel
- Frameworks – UAF with DoDAF 2 Prefixes
- Automatic Importing of Data Sources: The SA API offers two new command lines on SA startup, so that VBA 7.1 macros can be initiated and run automatically via Windows Scheduler
- SA XT Web Drawing Enhancements: Auto-routing and straightening of lines is now available in SA XT
- SA XT Reporting GUI Enhancements: Users may now load previously saved Shared or Private queries in the SA XT Query Builder
- SA XT Definition Editor Enhancements to match rich client
- Managing the EA – Finding Bad Data: A new command is available on Dictionary menu: Create Unrelated Definitions List,
- Managing the EA – Running Dictionary Update on Selected Artifacts: Users can now run Dictionary Update for selected EA artifacts in the Explorer tree by selecting the Assert Relationships command.
- Managing the EA – Running VBA 7.1 Macros for Selected Artifacts: Users can run a VBA 7.1 macro for selected EA artifacts in the Explorer tree by selecting the artifacts and running the Run Macro command.
- SA REST: The SAREst API now supports pagination of queries.
- New, Modernized SA Help Format: The help is now produced in Reverb, a modern, responsive format

# 11.4.8.1 (Released February 3, 2021)

- Frameworks – sysML 1.6 and UML 2.5 -- Phase 2 Support
- Usability – SA Diagramming Enhancements:
  - Line-to-Remote-Text now controllable at symbol level; previously it was a global setting.
  - Alignment menu/command is now available on roadmap-style diagrams for non-roadmap symbols so it can be used by those who wish to add their own key rectangles.
  - Alignment menu/command available on hierarchy diagrams for root & non-tree symbols.
  - Projects now movable on roadmap-style diagrams. The rightmost project defines the margin that all others line up to
- Reporting: Report Generator can now support interleaving of subreport output in grid reports to produce a join of the output from multiple reports
- SA XT Personal Dashboards now includes a new Diagram Widget
- SA XT Web Reporting: Additional settings can now be saved for reports that you build in the SA XT Query Builder
- Usability – Definition Editor: The Advanced Definition Editor has new icon button -- Find Property
- SA REST: The SARest API can now handle encyclopedia transactions including OpenLock, CloseUnlock, and CloseUnlockCommit.

# 11.4.8 (Released October 30, 2020)

- sysML 1.6 – Phase 1 of support
- UML 2.5 – Phase 1 (separate from existing UML 2 ‘Lite’ Support)
- Personal Dashboards in SA XT
- SA Drawing Enhancements
  - Numerous enhancements were made to System Architect’s line drawing experience, selection of symbols on a diagram, and to display of symbol names and child indicators.
- Metamodel Language Enhancements:
  - CONTROL\_INSERTION\_BEHAVIOR
  - It is now possible for a single definition type to support a number of different line symbol types with updates to the REPRESENTS EXPLICIT RELATIONSHIP
  - SA Explorer Tree: You may now display the Name Only for referenced objects with BROWSER { NAMEONLY } usrprops command, which works alongside BROWSER { SHOW }
- Integrations: OSLC Support for HTTPS
- Integrations: OSLC – New REST Call Returning Configuration Info
- SAEM: Improve Lookup Table Creation
- SA Publisher Output No Longer Dependent on Web Server
- SA Cognos Schema Generator Renamed to SA BI Interface

# 11.4.7.2 (Released May 1, 2020)

- Performance Enhancement for Data Centric Diagramming in SA & SA XT
  - When adding a new symbol to a data-centric diagram, only relationships from newly added symbol to existing symbols on diagram are examined & updated; versus examining/refreshing all existing symbols on diagram & their interrelationships
- Port symbols can now anchor on inside & outside of edge of host symbol
- SA XT: selecting name or graphic comment of symbol that resides outside the symbol – SA XT now also selects owning symbol
- SA XT Login page has updated styling
- SA Catalog Manager now imports Active Directory group members that are in different domains
- Greatly improved performance of websites generated by SA Publisher that were presenting architecture with large data set. SA Publisher explorer tree now uses slickgrid.js (replacing jstree.js)
- SA XT Gadget Dashboard upgraded version of Focal Point installed to 7.4
- SA Status bar now presents more progress feedback when: a) updating meta data while opening encyclopedia, & b) generating user property file from the Meta Model Object definitions (Usrprops.txt GUI).
- IBM® Garage Method templates for SA available on Customer Portal
- APQC models in SA made available on Customer Portal

## 11.4.7.1 (Released January 31, 2020)

- Data Centric “Generic Port”
- Return of Enterprise Merge/Extract
- “Help Me Pick a Line” Wizard
- Analytics Enhancements
  - Specify size of Analytic
  - Specify location of Reference Document “Paperclip” icon
- Data Centricity Enhancements
  - ‘Hide new lines added by refresh’
- Verify/Repair on Selected Items
- Frameworks – BPMN Enhancement to Event-Based AND Gateway
- SA XT Drawing Enhancements – Moving swimlanes for BPMN
- SA XT Reporting – Save to File & Export Saved Queries
- Performance – Activity on a Performer Swimlane
- Other Enhancements
  - Integrations – SA-DOORS supports DOORS client 9.7
  - Access Control Enhancements
  - Support for Windows Server 2019
  - Access Control Preview

# 11.4.7 (Released Oct 18, 2019)

- **Frameworks/Customizable Metamodel:**
  - *Ports Generically Available*
- **Frameworks: DoDAF 2.02 Update:**
  - ActivityResourceOverlap (DM2r) renamed to ActivityProducesConsumersResource (DM2r)
  - Data Store (DM2rx) was added to the types available in an SV-10c Data Store definition.
- **Web: SA XT Diagramming Enhancements**
  - *Box-in-Box data centrality*
  - *Display alternate depiction*
  - *Selection of Pen thickness*
- **Reporting**
  - *SA XT GUI supports typing a letter to quickly find definition/symbol/diagram*
  - *SA XT now allows selecting Defines/Defined By relationship (used in data centric behavior)*
- **Web: SA Publisher enhancement**
  - *SA Publisher output website explorer tree is now built using a group of uncomplicated HTML and CSS files to allow for easier user style and functional customizations*
- **VBA 7.1 replaces VBA 6.5**
- **XML Export/Import**
  - OK button to specify export to begin when all related items have been found. XML Import now allows import of immediate folder contents rather than forcing the user to select each file in a folder
- **Performance:**
  - Ecy & catalog structures updated to remove use of some types going out of support
- **Access Control**
  - *Several enhancements made on how to set permissions in SA Catalog Manager*

# 11.4.6.2 (Released June 1, 2019)

- *Frameworks: TOGAF 9.2*
- *Frameworks: NAF 4.0*
- *Reporting:*
  - *Across Workspaces*
  - *Support for Sub Reports in Reporting GUI for SA & SA XT*
  - *GUI Extended to 9 Levels*
  - *Generation of Pictures of Diagrams*
  - *Ability to Report on Hidden Fields*
  - *Saving Reports Built in SA XT*
  - *Report on 'By Reference' Property Name*
- *Integrations: Support for REST Write*
- *Analytics:*
  - *'Paperclip' icon introduced for Reference Docs*
- *Configurability of Web Client*
  - *Ability to edit /set configuration defaults of SA XT web.config file through Catalog Manager*
- *Encyclopedia Management*
  - *Definition dialog now provides a button showing the available space left for the object properties, in percentage form*
- *Microsoft VBA 6.1 Made Optional Install*

# 11.4.6.1 (Released Jan 15, 2019)

- *Web: SA XT Diagramming Enhancements*
  - Create line symbols from the Draw toolbar
  - Change connections and deletion of line symbols
  - Be alerted by a prompt for required definition properties on drawing nodes/lines for new definitions
  - Draw lines to existing keyed definitions
  - Use an Apply button in SA XT Definition & Diagram properties editor
  - No longer receive session timeouts while editing a diagram in System Architect XT – it is now prevented
- *SA XT Reporting GUI Enhancements*
  - Additional reporting levels: Users can now build reports up to 10 levels.
  - Filter available types & properties: the Available Types and Available Properties lists are now filtered by selections made in previous levels.
  - Filter reference types & allow custom or renamed reference types: Reports now support multiple reference levels. The Reference Types shown in the next level’s dropdown now depend on the Types selected in previous levels. Also, the Reference Type dropdown will recognize custom and renamed Reference Types entered in USRPROPS.TXT.
  - Subreports: Users can build reports that include subreports. Because the queries entered in SA XT are not stored in a report file, you must include the location of the subreport file in the query text.
- *Conceptual Data Model for UAF & DoDAF 2*
- *SA Reporting System Now Supports Sub Reports*
- *Replacement of WMF with SVG graphics*
- *Support for Microsoft Office 2016*



# 11.4.6 (Released Oct 15, 2018)

- Unified Architecture Framework (UAF)
- SA XT Reporting GUI
  - GUI Editor for Web Reporting
- SA XT Diagramming Enhancements
  - Web diagramming starting to match SA rich client
- Web Reporting Dashboards – Diagram Preview
- Web Reporting Dashboards: D3 Chart Enhancements
- SA Definition Dialog Usability
  - a Type restriction option is now available in the SA Choices list
- Licensing
  - Time period for when a license is checked over your network can now be adjusted
- SAEM supports TLS 1.2 connections (previous 1.0)
- SVG images for all of DoDAF 2 (Replacing .wmf)

# 11.4.5.2 (Released April 25, 2018)

- SA XT enhancements
  - Representationally consistent diagram types available
  - Enhancements to SA XT drawing (pen, fill, font color selection, etc)
  - Enhancements to BPMN modeler
  - Mouseover highlighting added to SA XT diagramming
- Enhanced Pan/Zoom on SA XT & SA Publisher SVG Output
- Enhanced SA-Focal Point Integration
  - Enable mapping of SA List properties to FP Choices, and mapping of SA text and date properties to FP
  - SA-FP mapping can be performed via Command Line with Silent Synch
- Security
  - SA now provides the ability to use encrypted Microsoft SQL Servers when connecting to encyclopedias

## 11.4.5.1 (Released January 10, 2018)

- **Web: Enhancements to SA XT Diagram Editor**
  - Support for Gradient Fills
  - Support for loading symbol colors from Stylesheet
  - Support for Duplicate Check
  - Access diagram symbol properties to specify such things as parent/child navigation
- **Web: SA Publisher Enhancements**
  - All chart supvisualizations rewritten in JavaScript using D3.js Javascript library
  - Support report filter & drill down
  - SA Publisher now ports compressed SVG graphics
- **Web Output: Elimination of Dependency on Java in SA utilities:**
  - Output of HTML Generator, SA Compare, and Compare Diagram rewritten in JavaScript to eliminate the dependency on Java Runtime Environments
- **Security:**
  - Support for Encrypted Connection to Encyclopedias
- **Frameworks: ArchiMate 3.0 Enhancements**
  - 10 new matrices added
- **Matrix Designer**
  - Enhancement to make it easier to build matrices with Explicit Join definitions

# 11.4.5 (Released October, 2017)

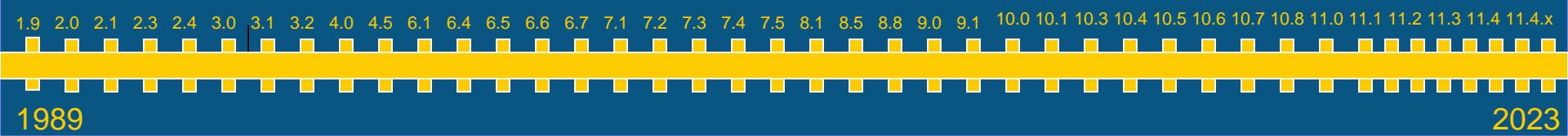
- SA XT significant update to eliminate dependency on Java JAR
  - SA XT diagram editor rebuilt as JavaScript diagram editor
  - SA XT chart visualizations rewritten in JavaScript using D3.js JavaScript library
- Reporting:
  - Filtered Drill-Down Reporting: SA XT now features reporting charts that enable you to drill-down on selections, with each drill down doing a filter based on selected items
- Integrations:
  - SA XT now displays OSLC links in definition pages
- Frameworks -- DoDAF 2:
  - Op Exchange Generation now possible from filtered set of Activity Resource Overlaps
- Usability:
  - “Apply” button and CAUSESAPPLY behavior has been implemented in the modern Properties Pane Editor, matching behavior in the classic definition Editor – instantly change properties seen based on value of a stereotype
- Metamodel Customization:
  - ALLOW\_COPY keyword allows you to copy property value of a text field by highlighting it
- Reporting:
  - Support added for Office 2013, and 64-bit versions of Office

# 11.4.4.3 (Released April 26, 2017)

- *Web:* SA XT no longer dependent on JAR
- *Usability/Graphics:* Full support for SVG on diagrams in System Architect
- *Usability/Graphics:* Improved support for EMF (Enhanced Meta Files) in SA
- *Usability & Metamodel:* Ability to specify position of user-defined Chapters (tabs) in USRPROPS
- *Usability & Metamodel:* Calendar date picker in definition dialogs
- *Metamodel:* Advanced input validation via USRPROPS
  - Example: ability to specify a property as float 2.3, so that values like 2, 11, 1.1, 2.5, 2.55 or 12.24 are accepted as 2.3 floats
- Numerous fixes to the product, detailed in the Release Notes

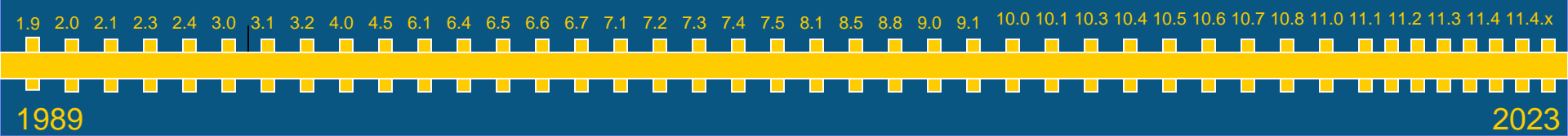
# 11.4.4.2 (Released January 3, 2017)

- *Web Dashboards:* SA/FP Gadget Dashboard - new product comes with SA XTNew WebHelp System
- *Web Enhancements:* Improved, HTML-5 based (& mobile) UI design for SA Publisher output
- *Meta model:* Enhancements to the Meta model diagram to more clearly show currently deployed meta model in an ER-type view
- *Frameworks:* Roadmapping available out-of-box
- *Frameworks:* Capability Maps available out-of-box
- *Usability:* Augmented ability to selectively reveal hidden lines
- *Usability:* Ability to select line thickness independent of line style
- *Usability:* Support for .png and .jpg formats for SA Draw capability
- *Usability:* Continued improvements to the help system
- *Functionality:* DB Synchronize re-enabled & supported again
- Numerous fixes to the product, detailed in the Release Notes



# 11.4.4.1 (Released September 6, 2016)

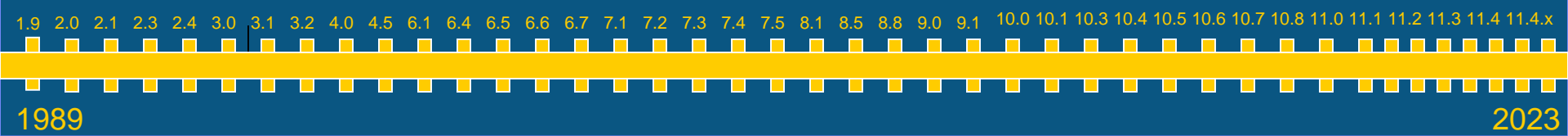
- *Frameworks*: Native support for ArchiMate 3.0 as paid add-in
- *Metamodel*: Enhancements to the Metamodel Language and Metamodel Editor
- *Reporting*: Enhancements to the Native Reporting System
- *Usability*: Enhancements to Display Mode capabilities
- *Usability*: Continued improvements to the help system
- Numerous fixes to the product, detailed in the Release Notes



# 11.4.4 (Released April 19, 2016)

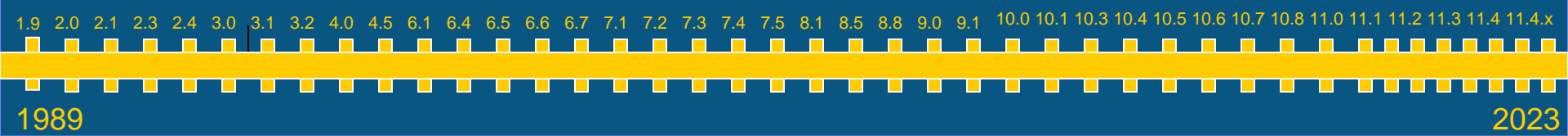
- New UNICOM Licensing Technology
- New WebHelp System
- Rebranding
- Minor bug fixes





# 11.4.3.6 (Released Dec, 2015)

- DoDAF 2 project enhancements
- Analytic improvements – positioning of icons on a symbol
- Explorer diagram enhancements
- SADM pivot table gadget
- Merge/Extract improvements – including ref docs in merge
- SA/ERP improvements – Salesforce.com

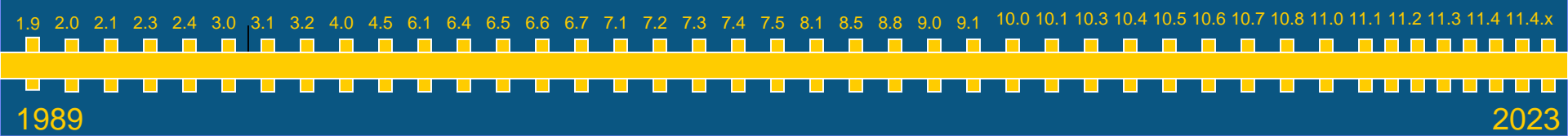


## 11.4.3.5 (Released Sept, 2015)

- Improved deployment for SA DM
- Introduction of JRS for Dashboard
- User Experience Improvements
- Additional Classic reporting in SADM
- OSLC Linking Improvements
- Foreign Key Improvements

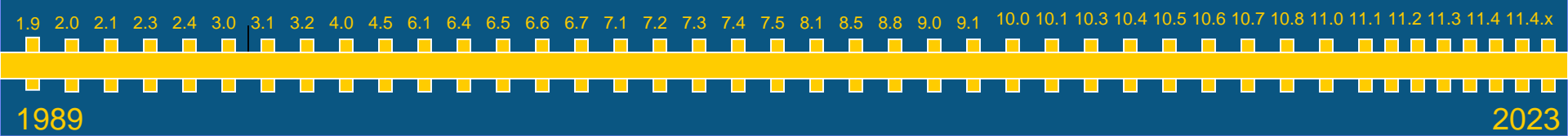
# 11.4.3.4 (Released June, 2015)

- New text position command – “Keep text position with respect to Name rather than nearest line point”
- New macro permissions in SA Catalog Manager access control: Check in, Check out, Freeze, Unfreeze, Lock, & Unlock
- DoDAF 2 -- OV-4 Performer Composition diagram, with new relationship Component Of and Composed Of
- DoDAF 2 -- Ability for timeline to be placed directly under each roadmap item on SV-8 and PV-2



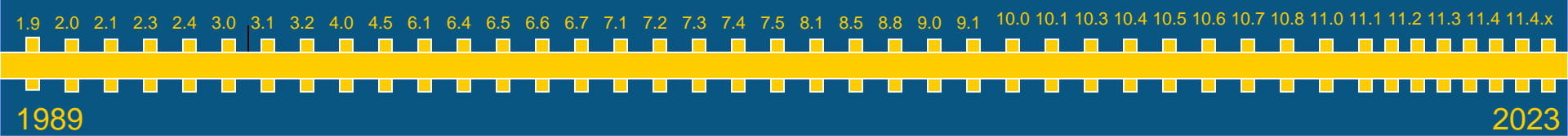
## 11.4.3.3 (Released March, 2015)

- Explorer Landscape diagram positioning improvements
- Explorer Landscape diagram font scaling improvements
- Explorer diagram Refresh
- Object History – Restore Definition capability
- New Format option for Arrange symbols at center of container
- Matrix improvements – dragging/dropping info into a matrix, switching columns/rows of matrix, grouping rows/columns, open an empty matrix, and removing rows/columns
- Note symbol added to diagram types; like Text symbol but supports Word wrap and resizing



# 11.4.3.2 (Released Dec, 2014)

- New DoDAF 2 reports for OV-3 and SV-6
- Improvements to DoDAF 2 Measurement Instances
- Configuration tool for REST Server
- Enhancement to Display Mode command
- Improvement to Straightening of Non-Elliptical Lines

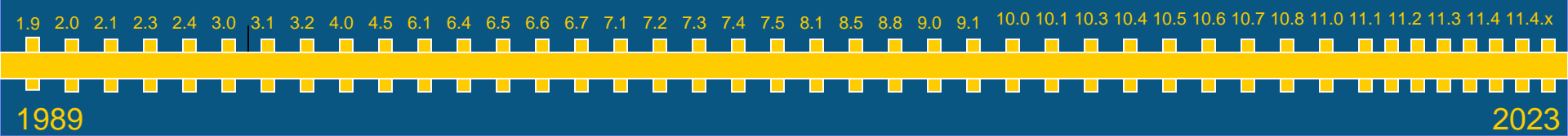


# 11.4.3.1 (Released Sept, 2014)

- System Architect first IBM tool available on new “Measured Token” program

# 11.4.3 (Released June 6, 2014)

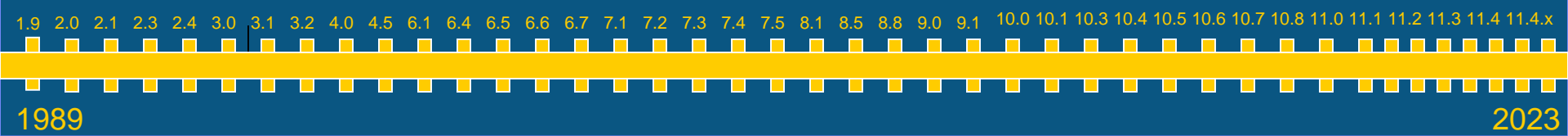
- SA Design Manager
  - An SA Design Manager license comes with every license of SA or SA/XT
- TOGAF 9.1 Enhancements
  - New TRM diagram set
  - Cross-Domain diagram type introduced
  - Network Infrastructure diagram introduced
  - New TOGAF relationships introduced, superceding uses/used by
- DoDAF 2 Enhancements
  - SV-8 Systems Evolution viewpoint
- SA/ERP Enhancements
  - Updated to support Saphir 6.1
  - Usability improvements
  - Metadata can be extracted from any SAP ERP or SAP BW system hosted on HANA
- Sunset:
  - SA Process Integrator, RDE/SG generation, SA - RAM integration, Enterprise Merge/Extract, XMI import/export, SSADM, Word Reports



# 11.4.2.7 (Released March 14, 2014)

- Addition of XML and BPMN Export Options
- Improvements to Metamodel Object Functionality
- Many CR's Fixed and Minor RFE's Implemented





## 11.4.2.6 (Released Dec 13, 2013)

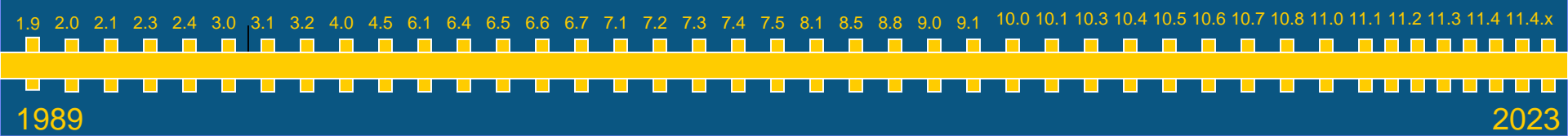
- Support for FEAF 2.0
  - Federal Enterprise Architecture Framework 2.0, part of FEA Ref Model add-on
- Data Centricity for Explicit Box-in-Box Join Relationships
  - Implemented in BPMN for DoDAF 2
- Control of Implicit Box-in-Bos Relationships
- DoDAF 2 Enhancements
  - Removal of GUIDS from DoDAF 2 support
- Many CR's Fixed and Minor RFE's Implemented

# 11.4.2.5 (Released Sept 28, 2013)

- DoDAF 2: Auto Generation of System Exchanges & System Resource Flows
  - Also: Inconsistency Reports of Op Exchange/Needline Matching
- DoDAF 2 – BPMN Additions
  - Rules Check Reports for BPMN 2.0 /DoDAF 2 Architectures
    - **OV\_05b BPMN Missing ActivityPerformedByPerformer Rules Check**
    - **OV-05b BPMN Missing Activity Rules Check**
    - **OV-05b Missing Part Of Pool Rules Check**
- Many CR's Fixed and Minor RFE's Implemented

# 11.4.2.4 (Released June 21, 2013)

- TOGAF 9 Enhancements: Infrastructure-Level Modeling
  - Enabling Capture of Versions and Instances of Applications & Technologies
    - Configuration Item -- {Abstract}
    - Database Instance
    - Operating System Instance
    - Device Instance
    - Physical Application Component Instance
    - Physical Application Component Version
    - Physical Technology Component Type
    - Server Instance
- Streamlining of TOGAF 9 Metamodel
  - Changes made to the out-of-box TOGAF 9 metamodel to make it more streamlined and easier from a usability standpoint
- DoDAF 2: Auto Generation of Operational Exchanges & Needlines
  - Also: Inconsistency Reports of Op Exchange/Needline Matching
- DoDAF 2 -- BPMN
  - BPMN 2.0 for DoDAF 2 OV-5, SV-4, and SvcV-4
  - BPMN 2.0 Reference to DM2 for Usage in OV-6c and SV-10c
- DoDAF 2: New SV-6 Report
- Many CR's Fixed and Minor RFE's Implemented

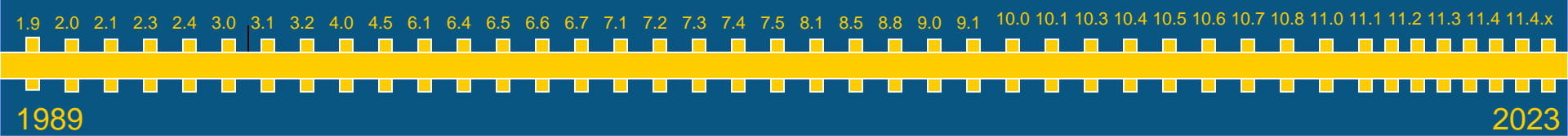


## 11.4.2.3 (Released March, 2013)

- Numerous Fixes and Minor RFE's Implemented

# 11.4.2.2 (Released Dec 21, 2012)

- **New Capability View product, CV-01 Blueprint**
  - Underlying relationships added to connect Capability to Desired Effect
- **Box-in-box data centric behavior introduced in DoDAF 2**
  - Project within Project: "Project Part Of Project" reference
  - Capability within Capability: "Parent Capability" reference
  - System Function within System Function: "Part of Function" reference
  - Service Function within Service Function: "Part of Function" reference
  - Activity within Activity: activityPartOfActivity reference
- **New DoDAF2 Explorer Relationship Reports to aid creation of Operational Exchanges, Needlines, System Exchanges, & System Resource Flows**
  - SV-01z and SV-10c and SvcV-01z System Data Flow and Service Data Flow Generation
  - OV-02z and OV-06c activityResourceOverlap Generation
  - OV-02 and SV-01 and SvcV-01 Operational Exchange and System Exchange Generation
- **NAF3 Explorer Relationship reports are now provided**
  - NPV-1 Organisational Resource to System Entity
  - NPV-1 Acquisition Project to System Entity
  - NAF3 Explorer Object Reports added - Capabilities related to Acquisition Projects as related via System Entity
  - Acquisition Projects where Disposal Date < Given Date
- **Many CR's Fixed and Minor RFE's Implemented**

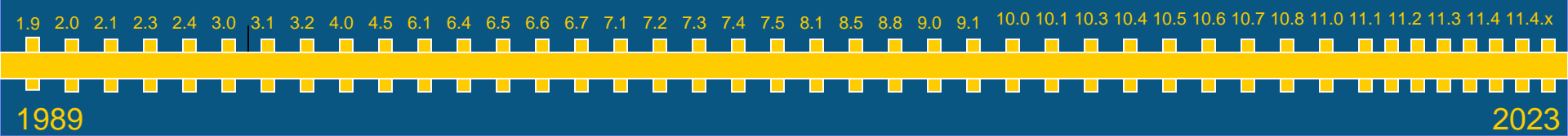


# 11.4.2.1 (Released Sept 28, 2012)

- DoDAF 2 Enhancements
  - Metamodel changes to introduce Operational Exchange, System Exchange
  - Physical Resource Flow added to SV-2
  - Measures – new regimen for adding Measures
  - Note: deprecation of Resource Flow, Measure types
- Business Motivation Model (BMM) formerly added to TOGAF 9
- Many CR's Fixed and Minor RFE's Implemented

# 11.4.2 (Released June 15, 2012)

- DoDAF 2.0 Enhancements
  - CV-3, CV-4, PV-1, PV-2, SV-10b, SV-10c, AV-2, SvcV-5, SvcV-6
  - Box-in-Box Data Centricity for Implicit Relationships Implemented
  - Graphical Metafiles for Symbol Depictions
- TOGAF 9.0 Enhancements
  - Introduced set of representationally consistent (or data centric) standard diagrams: Business Architecture, Business Footprint, Business Service Information, Event, Goal/Objective/Service, Data Dissemination, Data Entity/Data Component, Application Communication, Application and User Location, Platform Decomposition, Software Distribution, Technical Architecture
  - Turned off non-TOGAF diagrams and matrices to make TOGAF 9 simpler to use
- Updated Business Motivation Model (BMM)
- Improved OSLC Workflows and Rich Hovers
- Improved Workspace Merge
- Analytics Improvements
- Usability Enhancements
  - Line Auto Routing -- Assign Connections or Retain Connections
- Installer Consolidation
- New Out-of-Box Content
- Integration and Platform Version Updates
- Availability of System Architect in Additional Languages -- Portuguese (Brazilian) and Czech



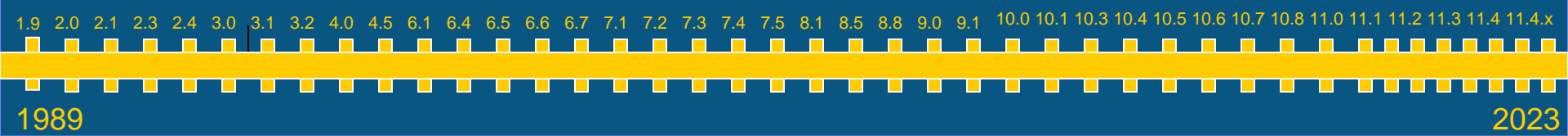
# 11.4.1.1 (Released Dec 16, 2011)

- Numerous CR's Fixed and Minor RFE's Implemented



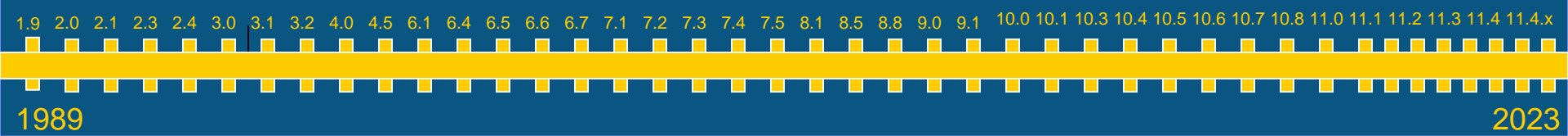
# 11.4.1 (Released Oct 28, 2011)

- Four Add-in's Now Provided at No Charge; Must Request License Keys
  - SA Compare, SOA Add-On, XML Architect design, SA Process Integrator (BPMN integration with Visio)
- Usability Improvements
- Jazz/OSLC Integrations
- BPMN 2.0 Interchange
- DoDAF 2.0 Enhancements and Additional Viewpoints
- Improved Workspace Merge with Workspaces
- Access Control Improvements
- SA/ERP Enhancements
- Support for Cognos 10.1 (in addition to previous support for 8.4)
- Support for Microsoft Office 2010
- Additional Session Options and Other Options
- Over 140 Change Requests and Requests for Enhancement Implemented



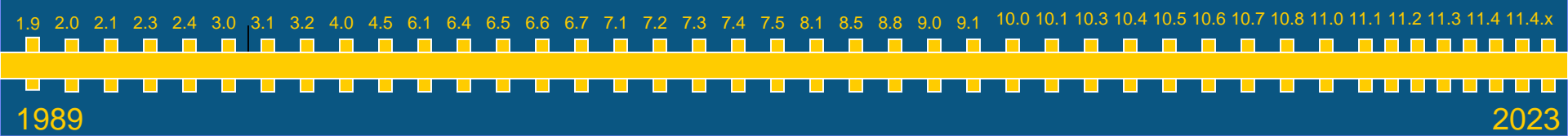
## 11.4.0.3 (Released April 29, 2011)

- DoDAF 2 Drawing Icons and Drop-Down Functionality
- Symbols with Gradient Fill
- Line and Metafile Smoothing with Anti-Aliasing
- Removal of GUIDs from Report Output
- Numerous CR's Fixed and Minor RFE's Implemented



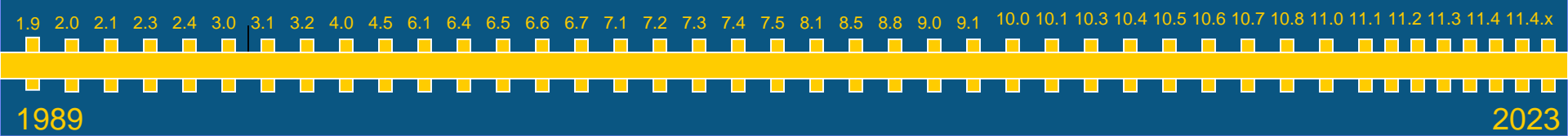
# 11.4.0.2 (Released March 27, 2011)

- Support for Oracle 11G (Release 2) as Backend Database
- Merge/Extract of Workspace Deletions
- Quick Compare
- Numerous CR's Fixed and Minor RFE's Implemented



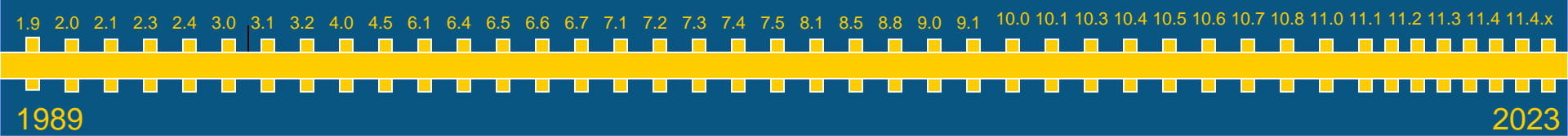
## 11.4.0.1 (Released Dec 17, 2010)

- Matrices with Rep Consistency
- DoDAF 2 Additions (CV-5, CV-6, CV-7, OV-3, SV-3, SvcV-3a)
- MODAF Improvements (Rep Con to SV-1, etc)
- Support for Chinese Language, Traditional and Simplified



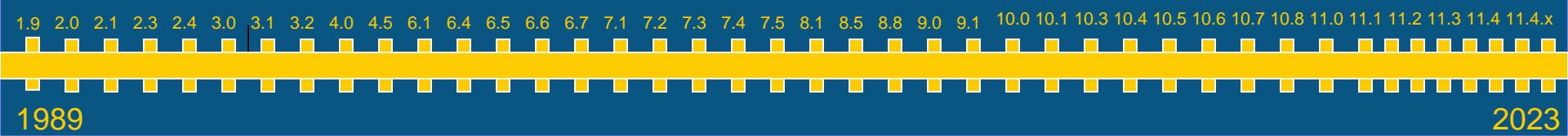
## 11.4 (Released Sept 17, 2010)

- DoDAF 2.0 Support
- BPMN 2.0 Support
- Model-Based Behavior
- Metamodel Inheritance
- Instance Modeling
- TOGAF 9 Updates
- Powerpoint 2007 Live Integration
- Landscape-Style Explorer Diagrams
- Improvements to Property window
- Improvements to References window
- Access Control for Workspaces
- Improvements to Compare Models Function
- Property Set Normalization
- Help on Information Center
- SA-RAM Integration
- SA-DOORS Out-of-Box Reports for Rational Publisher Engine (RPE) Add-On
- SA/XT Improvements
  - Visual Update
  - Stable URL's
  - Matrix Viewer
  - Workspace Selector
  - Diagram Undo/Redo
  - Definition Reuse on Diagrams
  - Diagram and Definition Rename
  - Edit Reference Documents Property



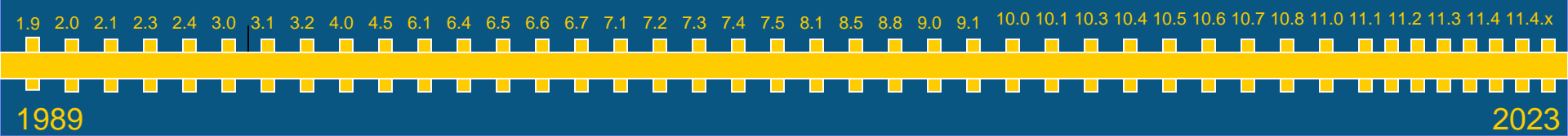
# V11.3.1.2 (May 21, 2010)

- BPMN-based OV-5 for MODAF



## V11.3.1.1 (March 26, 2010)

- Cognos-based Reporting
- Cross-Tool Traceability/Governance with SA/Pub Output URL's
- RPE Integration Improvements, including Relationship Reporting

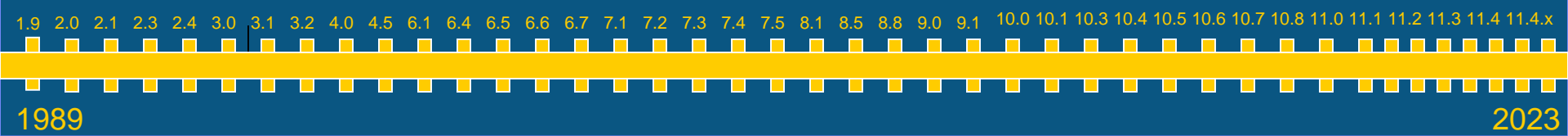


# V11.3.1 (December 11, 2009)

## SA V11.3.1 Build 170

- REST-Enabled Encyclopedias – Optimized XT Reader Integration
- TOGAF 9 Support
- Analytic Builder Wizard
- Focal Point Import Enabling Bidirectional Integration
- History Pane Improvements
- History-Based Compare
- SA Advanced Search
- Reports Generate to Grid Pane
- Enhanced Diagram Grid Support
- Rational Publishing Engine Integration
- SA Installer Improvements
- SA/XT Login Improvements
- Support for Microsoft SQL Server 2008 as an underlying repository
- Support for Microsoft Windows Server 2008
- Bi-directional Language Capabilities





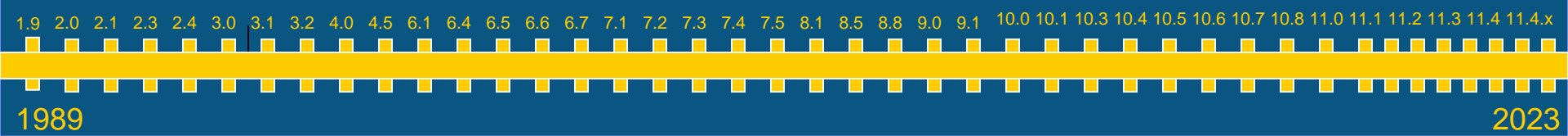
# V11.3.0.2 (August, 2009)

- Bug Fixes
- Minor metamodel changes to SA's MODAF 1.2 support to align it closer with the MoDAF1.2 specification

# V11.3 (June 2, 2009)

## SA V11.3 Build 128

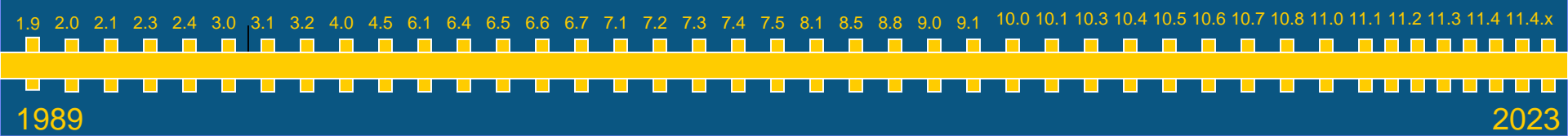
- Workspaces –support for as-is, and multiple to-be architectures
- Mirrored Properties
- Usability Improvements
  - Views Explorer Improved; Is New Default Browser
  - More Easily Accessible Referenced By
  - Streamlined Point-Click-Explore Interaction
  - Explorer Properties window allows editing of text properties
  - Property History dialog extended to include all properties
  - Better SA Diagramming Aesthetics – Modernized look and feel of drawing cursors, symbol handlebars, toolbar icons
  - Case Insensitive Reporting and Search (Ignorecase command added to reporting system)
  - SVG Export to JPG, PNG, and PDF
  - Auto-Arrange BPMN Diagrams
- Search Engine
- Metamodel Graphical Editor
- Heatmaps Manager for Improved Analysis
- Support for MODAF 1.2 and NAF 3
- SA/XT Usability Improvements
- SA/Focal Point Integration
- SA/Process Integrator Usability Improvements
- SA Available in French, German, Japanese, and Spanish
- Sunset: Removed Code Generation/Reversal from UML



# V11.2 SP1 (Feb, 2009)

## SA V11.2.25

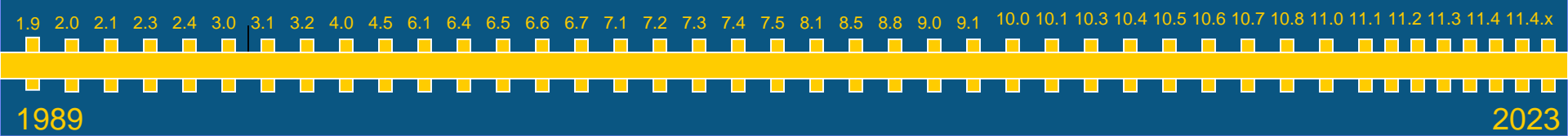
- SA/XT Supports Editing and Addition of 'Keyed' Definitions



# V11.2 (Nov 1, 2008)

## SA V11.2.15

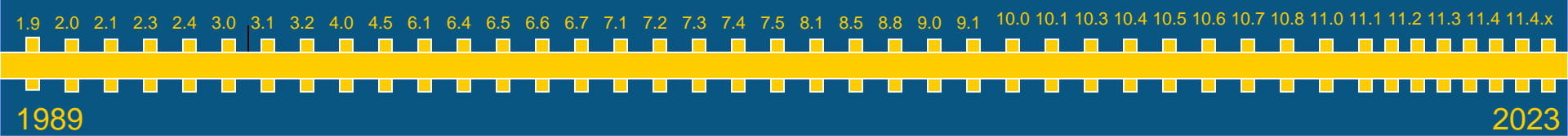
- IBM “Bluewashing” of the System Architect family of products
- Support for Ports in System Architect’s Native UML Functionality
- Report Generator User Interface for Sorting
- Improved Spell Checker in System Architect
- SA/XT Usability Improvements



# V11.1 SP1 (Sept 25, 2008)

## SA V11.1.27

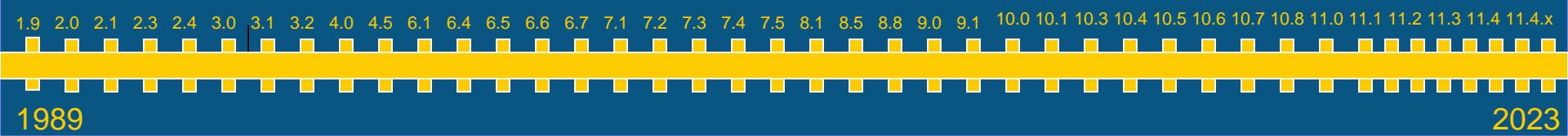
- MODAF AcV-2 Acquisition Programme ('Project Timeline') Diagram Improvements
- New SDX Generation Option for DoDAF ABM – Generate SDX's Based on Drawn Lines
- DoDAF ABM Report Improvements



# V11.1 (July 23, 2008)

## SA V11.1.22

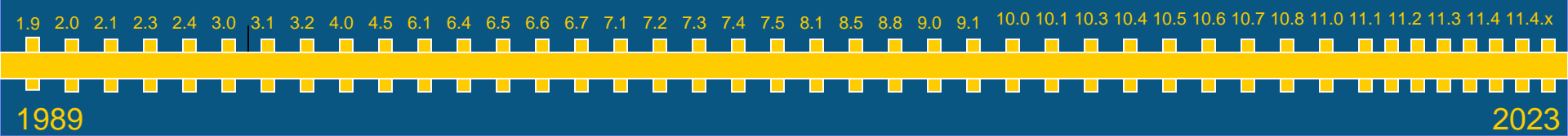
- SA – Change Integration
- Usability Improvements to SVG Output in SA/Publisher and SA/XT



# V11.0 SP2 (April 28, 2008)

## SA V11.0.37 SP2

- SA – Change Integration
- Usability Improvements to SVG Output in SA/Publisher and SA/XT, including Thumbnail Browser and Adjustable Hotkeys
- Usability Improvements to SA/XT Line Drawing for BPMN Diagrams

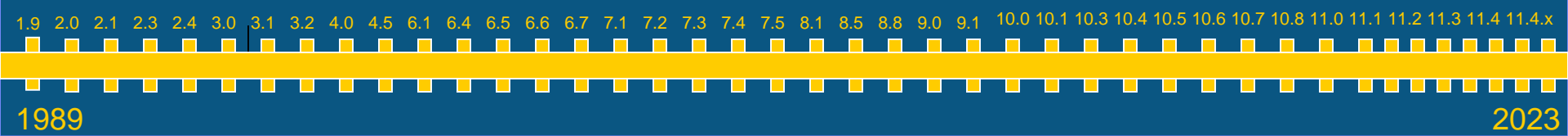


# V11.0 SP1 (March 28, 2008)

**SA V11.0.37 SP1**

- SA/Process Integrator – Inauguration
- ER Diagram Improvement
  - Option to show entity notation in Subject Area based on Model information

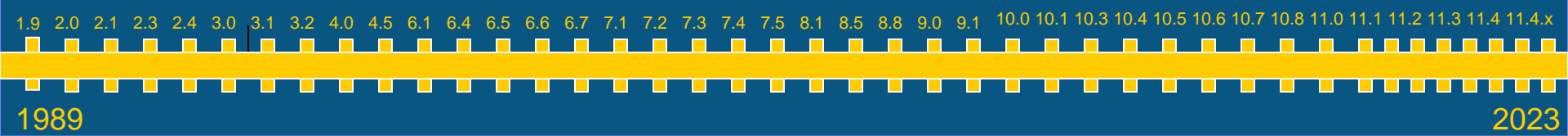




# V11.0 (Feb 15, 2008)

## SA V11.0.30

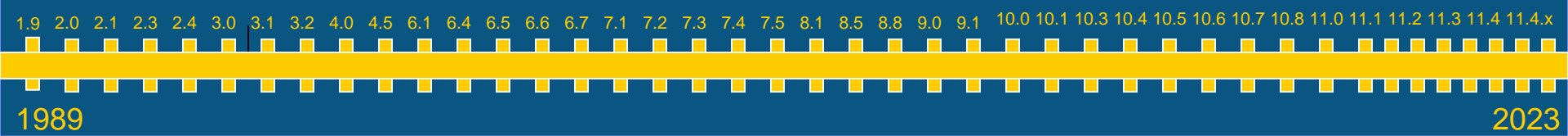
- Views Explorer
- Ability to Compare Diagrams Visually (Visualizations)
- DoDAF 1.5 Support
- SA/XT Drawing Capabilities for BPMN Diagrams
- UML 2.1 Support
- Improvements to iRMA Reports
- Wizard to Videotape Issues and Generate Support Requests
- Telelogic Directory Services (TDS)



# V10.8 (September 2007)

## SA V10.8.4

- Improvements to SA/XT Usability
  - Sortable table column headers
  - Row Count
  - Publishing toolbars on each output page
  - Page Trace Breadcrumbs
- Improved SA/XT Installation
- Improvements to SA/Publisher
  - Dashboards
  - Same Improvements with SA/XT



# V10.7 SP1 (July 2007)

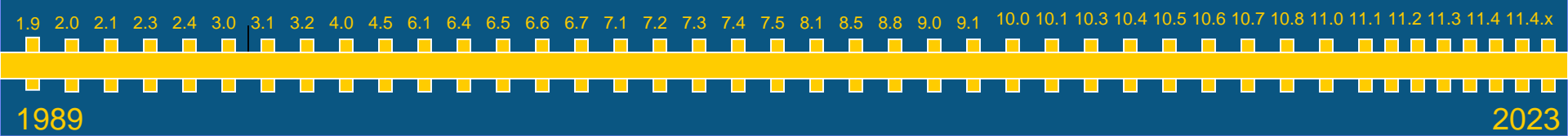
- Bug Fix Release

**SA V10.7.16**

# V10.7 (May 2007)

## SA V10.7.14

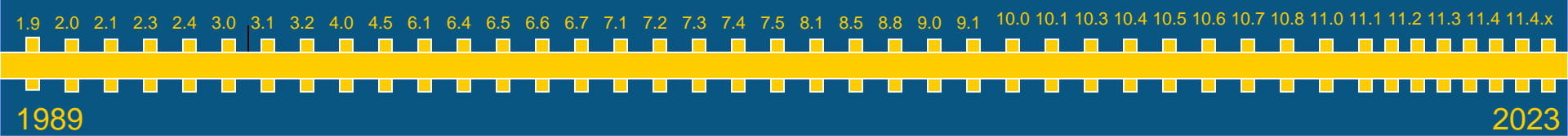
- Improved Repository Support
  - Support for SQL Server 2005 as underlying repository (as well as SQL Server 2000)
  - Support for Oracle 10G as underlying repository (in addition to Oracle 9i)
  - Support for SQL Server 2005 Express for single installations (replacing MSDE)
- Improved Data Modeling Support for DBMS's
  - Support for Teradata 2.6 schema generation to file
  - Support for SQL Server 2005 schema generation to file and live connection and reverse engineering via live connection
- SA XT Improvements
  - Ability to edit/add definitions through 'simple' **OneOf** & **ListOf** properties
- Support for data types Numeric Date Time Boolean
- Adobe SVG Viewer Replacement
- SOA Solution
- Support for Windows Vista Operating System
- Improvements to DoDAF ABM
  - IER and SDX generation



# V10.6 (February 2007)

## SA V10.6.10

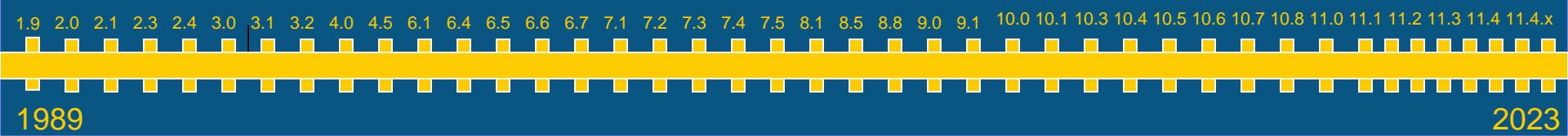
- Support for the MOD Architectural Framework (MoDAF)
- Changes to SDX Generation and SV-4 Auto Balancing in SA DoDAF ABM
  - SDX Generation Now Takes Into Account Splits and Joins of Data Flow Lines
  - SDX Generation from Data Flows on Parent/Child Diagrams Without Need for Uncles
  - Auto-Balancing of Data Flows on Parent/Child Diagrams



# V10.5 (December 2006)

- Fully Localized Version of SA
  - First Targeted Language = Japanese

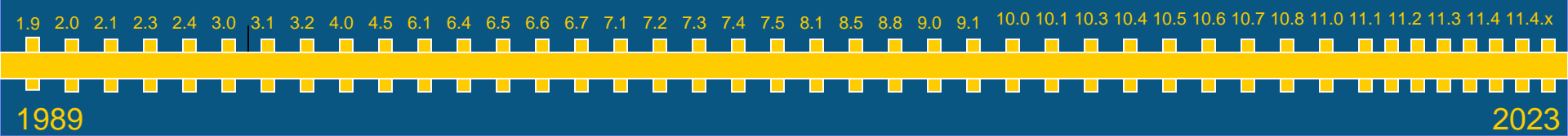
**SA V10.5.22**



# V10.4.23 (July 2006)

## SA V10.4.23

- NAF Option – Support for the NATO Architecture Framework
- Oracle Repository
- Improved Licensing Option – Ability to Use Different Versions of SA via One License File
- SA/ERP – Released in late August, 2006 as separate add-on available from Support Center of website

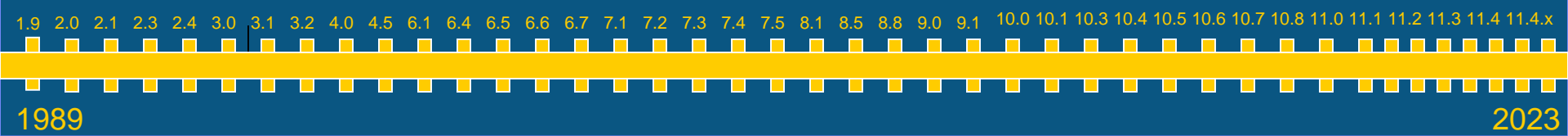


# V10.4.11 (April 2006)

## SA V10.4.11

- User Interface Redesign
  - Intelligent Menus, New Toolbars, New Encyclopedia Open Dialog, Tabbed Diagram Support, New Browser Property Control, Browser Renamed to Explorer, New Matrix Browser, New Docking Log Window
- Network Concept Diagram Enhancements
  - Cisco Images Included
- XML Schema (XSD) Management
- BPEL Generation Upgrade
  - Also Support BPEL Patterns
- Color-Coded Matrices as Part of Analytics
- Meta Model Diagram
- Official Support for Terminal Server (and CITRIX)
- Customer Experience Program
- iRMA Enhancements
- Performance Improvements to SA-DOORS Interface





# V10.3 (November 2005)

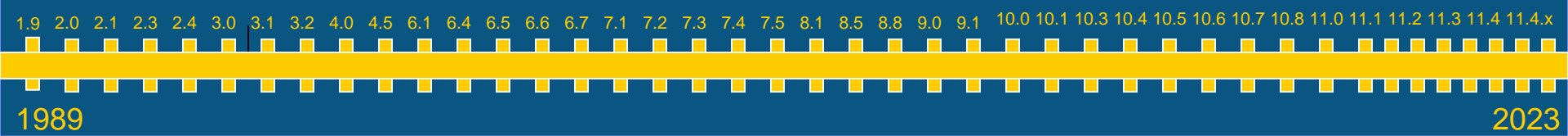
## SA V10.3

- SA-DOORS Interface V2
- New Licensing – FlexLM
- Oracle Repository
- Instance Level Access Control
- History Tables
- Analytics
- Explorer Diagram Improvements
- System Architect OLE DB
- Normalized Table Builder
- DB Synchronize Support for DB2 UDB
- DB Synchronize Support for Oracle 10G via DDL file
- Location of Guidebooks controllable through an SA2001.ini setting
- Symbol Layering
- Product Rebranding

# V10.1 (May 2005)

## SA V10.1.11

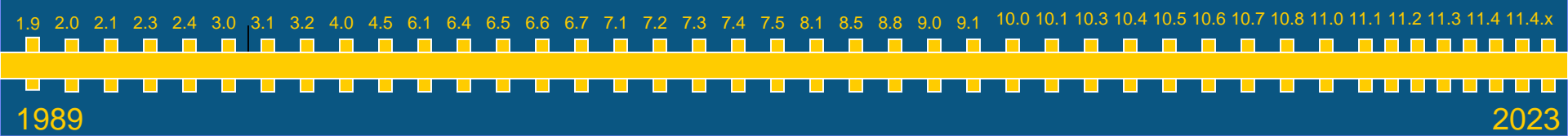
- DB Synchronize for Oracle 10G
- Many New Drawing and Publishing Features
  - Ability for Menu Structure to Be Customized (In Addition to Toolbars)
  - Ability for Symbol Name to Be Positioned Independent of Other Properties
  - New Option to Have Line Crossings that are Bridged
  - New Option to Turn On/Off Center-to-Center Line Routing
  - Added Ability to Scroll Diagrams Using Standard Windows Mouse Drivers
  - Improved Symbol Positioning when Dragging Multiple Symbols On Diagram
  - Increased Number of Diagrams that May be Open Simultaneously to 50
  - Drawing Area of a Diagram Increased to 640 X 640 inches
  - Explorer Diagram Improvements
  - Functionality Additions to Enterprise Direction Diagram
  - Group symbol Added to BPMN Business Process Diagram
  - HTML Generator – HTML Output Now Has Hyperlinks to Referenced Documents
  - Added Two New Options for generating SDXs in DoDAF ABM
  - DoDAF ABM Templates Added for SA Information Web



# V10.0.22 (November 2004)

## SA V10.0.22

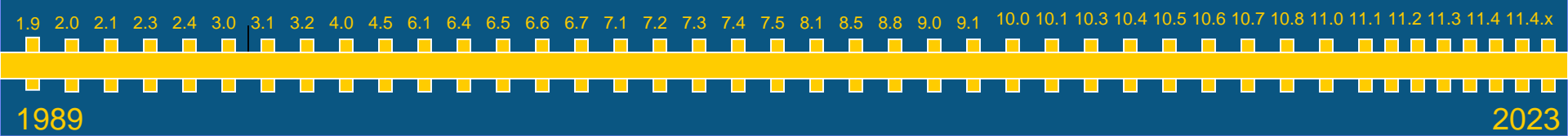
- DB Synchronize for Oracle 9i
- VB .NET Synchronization (previously supported VB 6)
- Reference Props for all Definition Types
- SA Simulator II for BPMN & Process Charts



# V10.0.14 (September 2004)

## SA V10.0.14

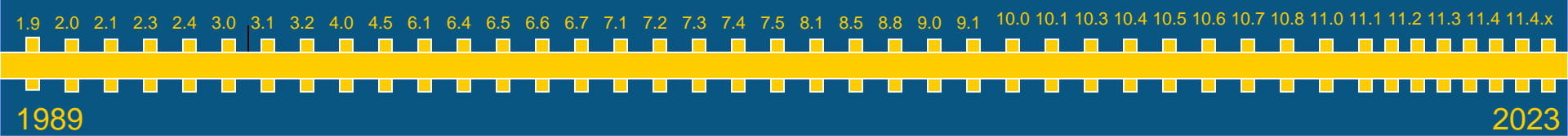
- Enterprise Explorer diagram
- Enterprise Direction diagram
- Access Control
- Guidebook (Generic)
- External Document Reference property
- BPEL for BPMN diagrams
- TOGAF Enterprise
- VBA upgrade to V6.3
- Improved ER-to-OO Mapping
- SA Information Web Publisher
- iRMA – Add-on Supporting Federal Reference Models



# V9.1.40 (April 2004)

## SA V9.1.40

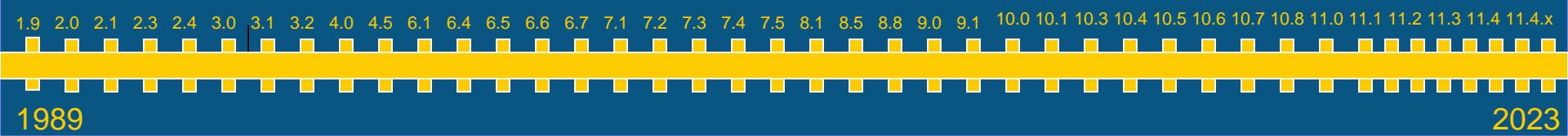
- DoDAF ABM support
- Merge/Extract performance improvements
- SA Info Publisher
  - Performance Improvements
  - Ability to Publish USRPROPS properties
  - Time-Out Version
- SA Compare
  - Performance Improvements
  - Time-Out Version
- Multi-Product Installation Front End



# V9.1.23 (January 2004)

## SA V9.1.23

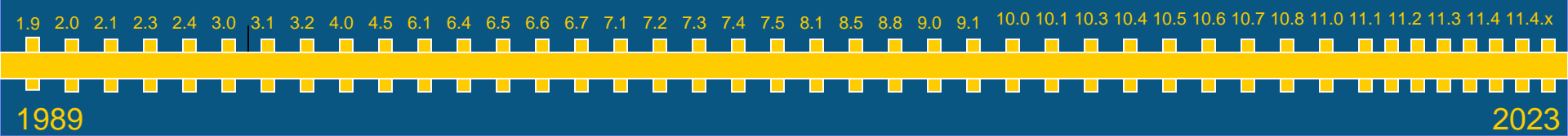
- SA/Publisher inauguration
- SA/Compare inauguration
- XMI Interface



# V9.1.18 (January 2004)

## SA V9.1.18

- SA Simulator II Inauguration

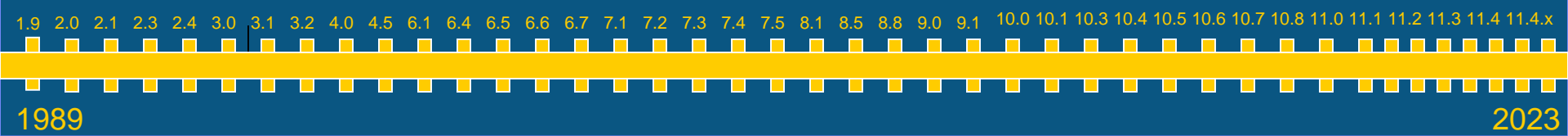


# V9.1.13 (September 2003)

## SA V9.1.13

- BPMN diagram support
- Heterogeneous Reference Properites
- HTML Generator Improvements
  - SVG graphic generation
- IDEF0 Drawing Improvements
- Browser Editor - Ability to edit browser tabs
- Auto Recovery of Diagrams
- 'Mona Lisa' Depiction Button
- Mouse-Over Highlighting
- Installation Improvements - New Startup Wizard

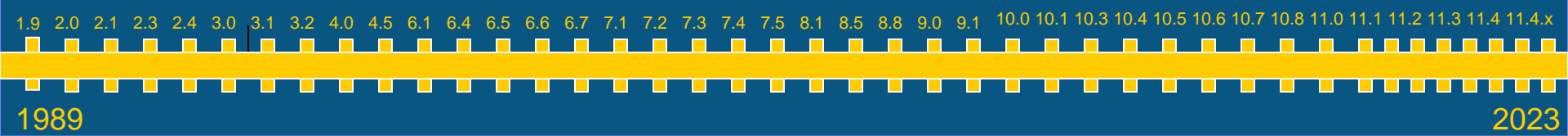




# V9.0 (December 2002)

## SA V9.0.19

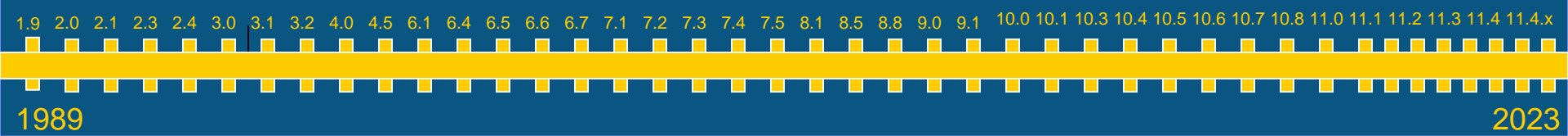
- Improved Scaleability due to change in the underlying repository
- Offers either MSDE or SQL Server 2000
- DB Synchronize for SQL Server 2000
- XMI Interface



# Version V8.8.18 (March 2003)

## SA V8.8.18

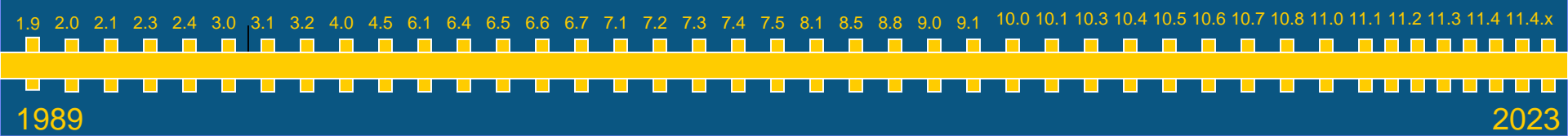
- XMI Interface
- Ability to Lock Ecy During FK Propagation
- Additional User Definition Types to Extend Metamodel (User 101-150)
- Improved Merge/Extract



# Version V8.8 (July 2002)

## SA V8.8.13

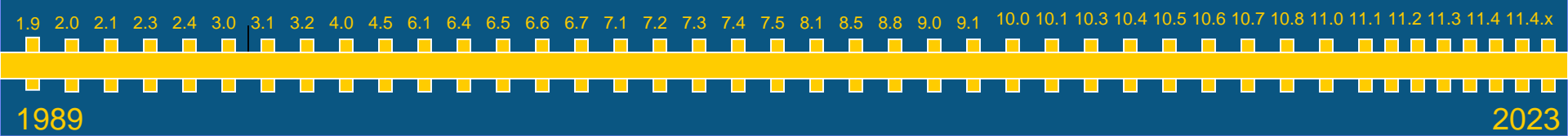
- Improved Reporting System
  - XML with XSL Stylesheets
- Better HTML Publisher
  - Framework Generation
- DB Synchronize™ for Oracle 8
- IDEF Enhancements
- Enhanced Zoom



# Version V8.6 (February 2002)

## SA V8.6

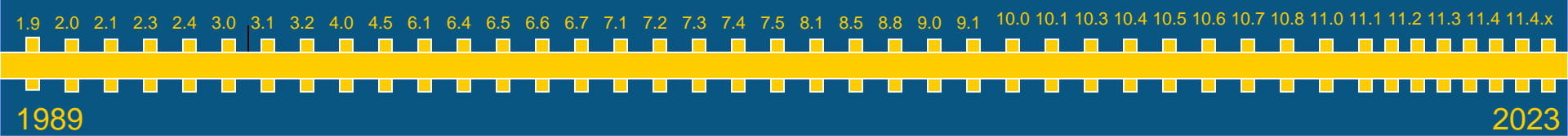
- German Version
- Japanese Version



# Version V8.5.24 (February 2002)

## SA V8.5.24

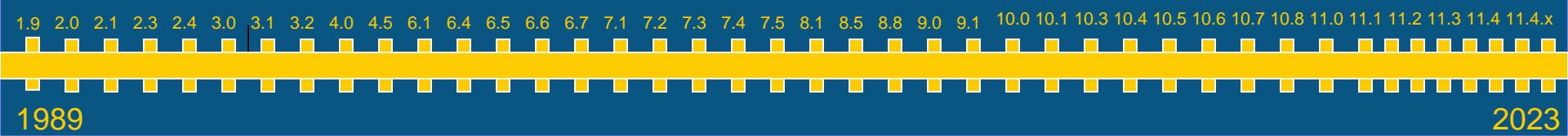
- Framework Manager supporting Zachman and RUP
- C4ISR becomes an optional extra



# Version 8.5 (Sep 2001)

## SA V8.5.15

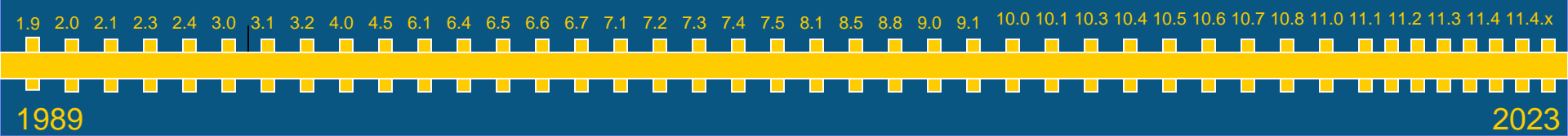
- DB Synchronize™ for SQL Server 7
- XML Design
  - Including Mapping to Data and Class Models
- UML Enhancements
- IDEF1X Data Modeling
- Print Layout Preview
- Improved Matrix Editor
- Improved HTML Generation
- Support for UNC paths throughout the application



# Version 8.1 (Mar 2001)

## SA V8.1.23

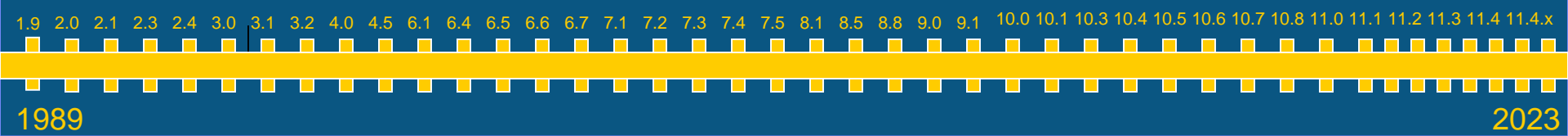
- Enhanced UML Support
  - Representational Consistency introduced for UML
  - Package-based UML Browser tab
  - User-Defined Symbol Presentation Based on Property Value, supporting UML “iconic” stereotypes etc.
- GUIDs introduced



# Envision XML (Feb 2001)

- Graphical Design of XML Schema
- Import and export of BizTalk compatible schema
- Import of DTDs

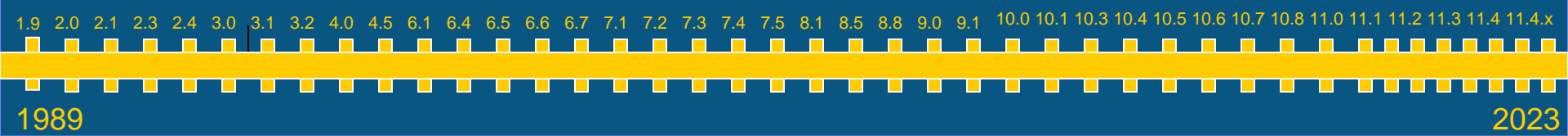




# Version 7.5 (Nov 2000)

## SA V7.5.10

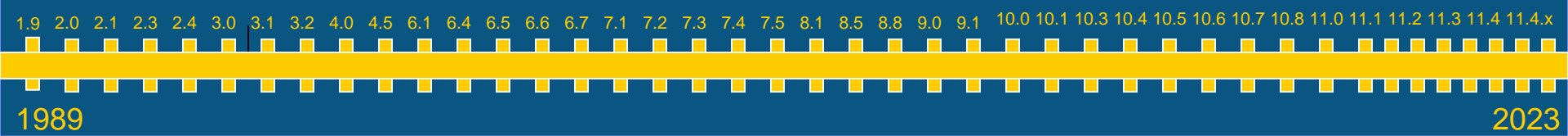
- Includes SA/2001 Simulator
- Simulation of Process Chart and IDEF3 Process Flow diagrams
- Filtering of browser contents using wildcards



# Version 7.4 (Aug 2000)

## SA V7.4.5

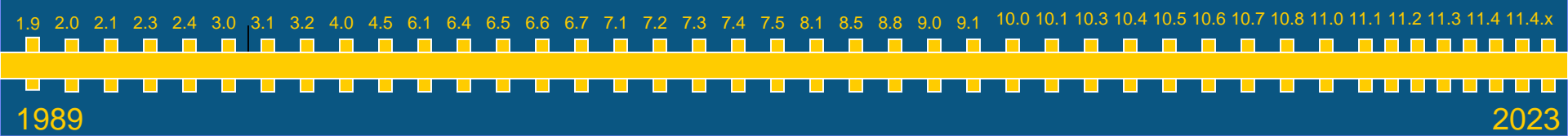
- Expanded metamodel extensibility
- Automatic numbering in hierarchical diagrams
- Selectively show or hide the sub-tree structure
- Improved conversion of logical to physical models



# Version 7.3 (July 2000)

## SA V7.3.7

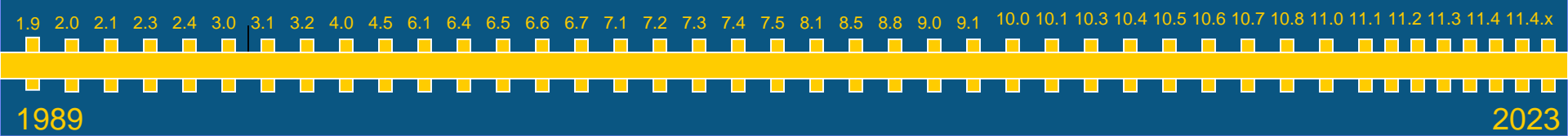
- Improved multi-user capabilities
- Enhanced browser performance
- Enhanced foreign key propagation performance and behaviour



# Version 7.2 (May 2000)

## SA V7.2.13

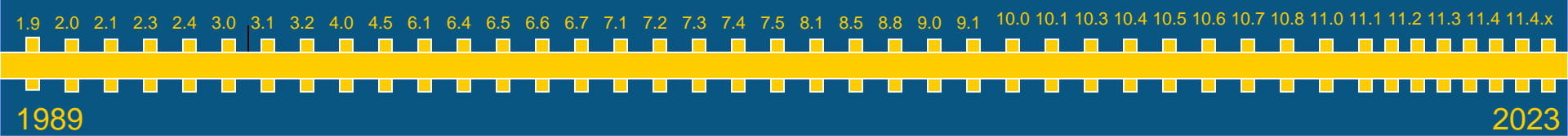
- Import and export of XML documents from browser contents
- Modified many keyboard shortcuts to comply with current industry practice
- Added support for the digital signing of VBA macro projects



# Version 7.1 (Jan 2000)

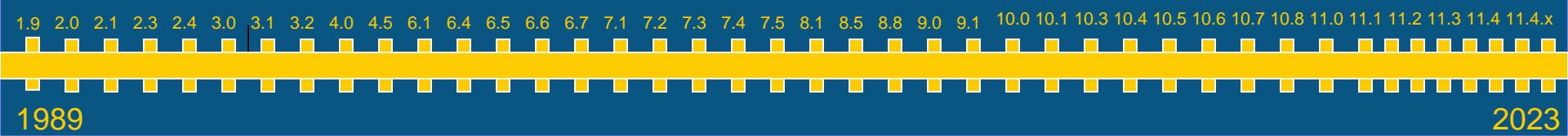
## SA V7.1.12

- Round trip of Visual Basic 6
- Bi-directional link between SA/2001 and the Microsoft Repository
- “Referenced by” floating menu item on the browser
- SA/2001 Tip of the Day



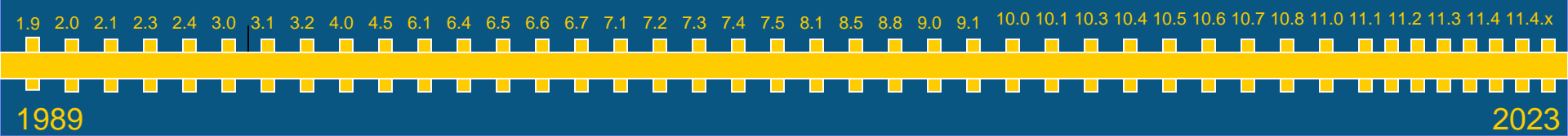
# Version 6.1 (July 1999)

- Re-architected System Architect to SA/2001
  - 32 bit version
  - New User Interface
  - VBA
  - Enhanced Drawing



# SA/Data Architect

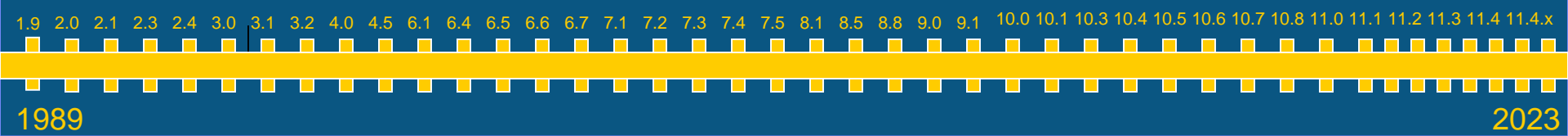
- Version Control – PVCS Link
- New Menu Bars
- Enhanced Browser- dockable
- HTML Generator



# SA/Object Architect

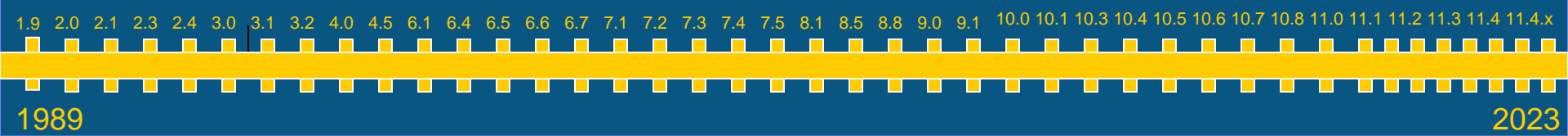
- Version Control – PVCS Link
- New Menu Bars
- UML Support
- Enhanced Browser- dockable
- HTML Generator





# SA/BPR- Professional

- Version Control – PVCS Link
- New Menu Bars
- Enhanced Browser- dockable
- HTML Generator
- IDEF0, 3, 1X
- Schema Gen
- Reverse Data Engineer

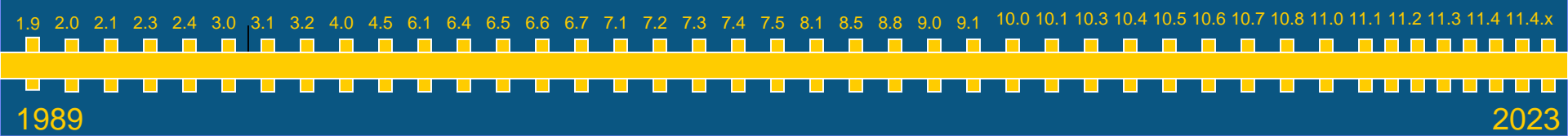


# System Architect with add ons

- Structured Analysis and Design
- Data Modeling
- Add ons
  - Schema Generator
  - Reverse Data Engineer
  - Project Documentation Facility
  - Object Oriented

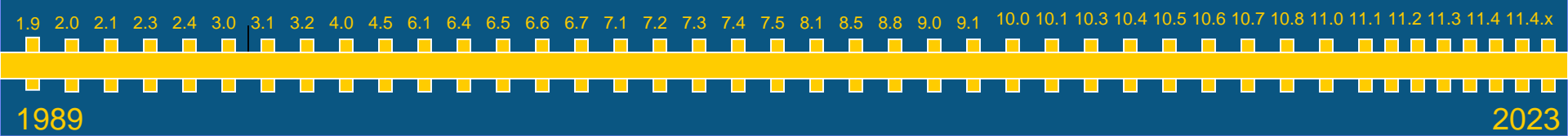
# SA/Catalyst (August 1998)

- POLDAT Support
  - Process, Organization, Location, Data, Applications, Technology
  - (Rows 1 and 2 of Zachman)
- Matrix Editor
- Automated Process Decomp Generation
- Process Thread Diagram 'Keying'
- Relationship Map Balancing Function
- Enhanced 'Display Option' capabilities



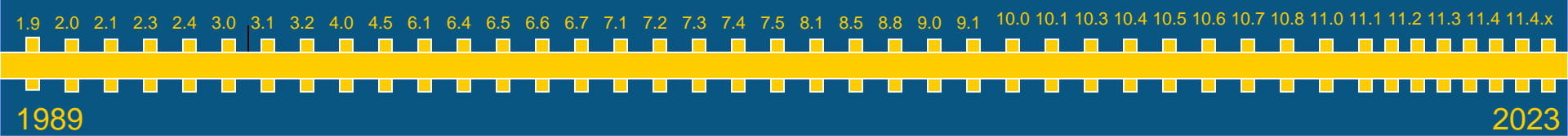
# Version 4.5 (July 1998)

- SA/Data Architect
  - New Data Modeling Paradigm
  - Model and Subject Areas Synchronized
  - Automated PK and FK Propagation and Synchronization



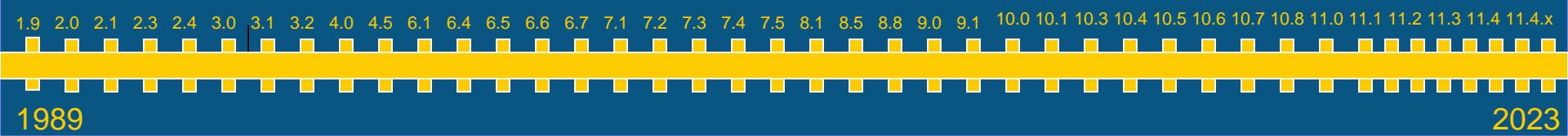
# Version 4.0 (August 1996)

- Product was launched as 5 specific versions
  - System Architect (with Add Ons)
  - SA/Object Architect
  - SA/Data Architect
  - SA/BPR
  - SA/BPR Professional



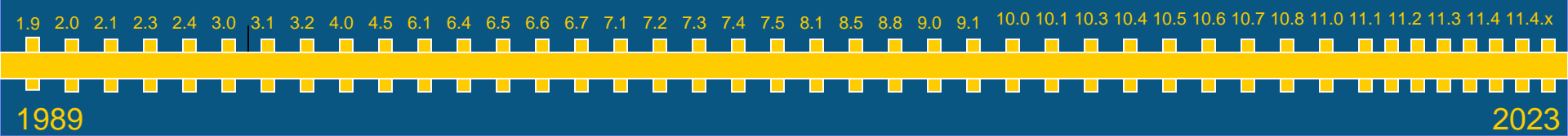
# Version 3.2 (March 1996)

- SA/BPR Professional
  - IDEF0
  - IDEF3
  - IDEF1X
  - Schema Generator
  - Reverse Data Engineer
  - IDL Export



# Version 3.1 (March 1996)

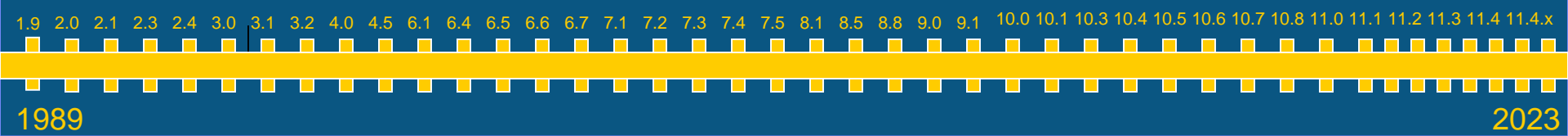
- User Interface
  - Spell Checking
  - Undo
  - Displayable Properties
- Code Generation (Smalltalk, VB, C++, Script based)
- ER to OO Generation
- Logical/Physical Separation of Data Modeling
- Word Reporting
- PVCS Version Control
- Shlaer/Mellor Support
- Use Case Diagrams
- GUI Report Writer
- Screen Painter (Prototyping and VB Generation)



# Version 3.0 (October 1994)

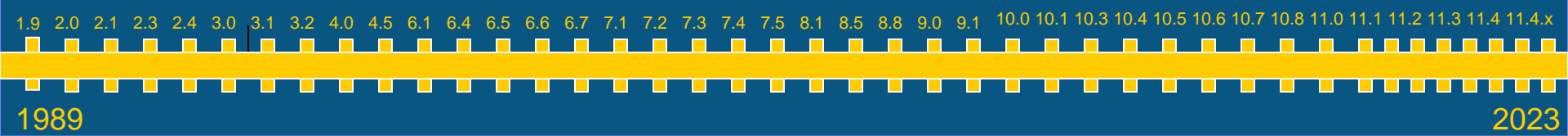
- Auto-Decomposition Diagram
- IDEF0 Activity Based Costing
- Trigger Editor
- Automatic Orthogonal Lines
- SA Security (SA Bindery)
- GUI Tools
  - Auto Resizing of Symbols
  - Browse
  - Auto Scrolling
  - Drag and Drop
  - Multiple Select





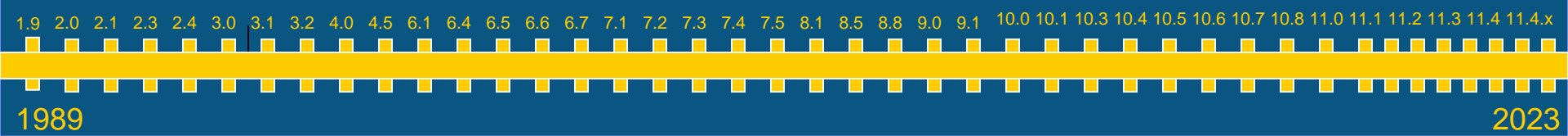
# Version 2.4

- Ships with OO Support for:  
OMT/ Rumbaugh



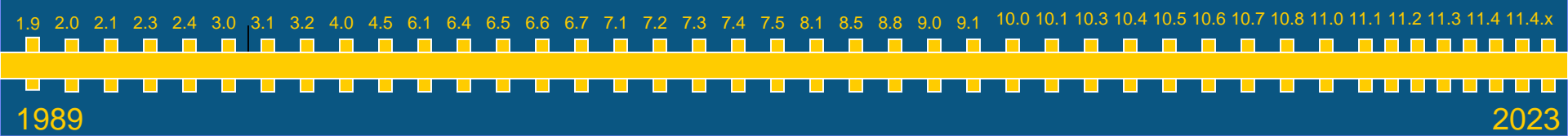
# Version 2.3

- Auto Line Drawing
- Enhanced Aesthetics
- Modified Windows User Interface



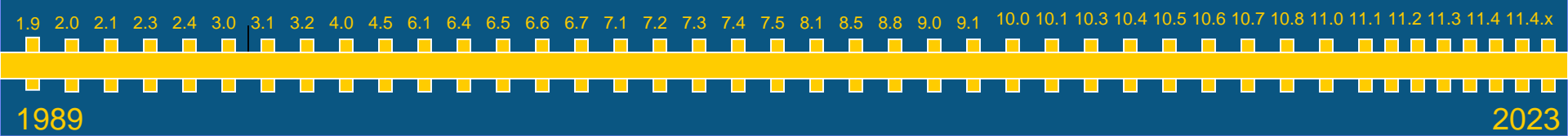
# Version 2.1

- Ships with OO support for
  - Booch 94
  - Coad/Yourdon
- Reverse Data Engineer



# Version 2.0

- Project Documentation Facility
- Schema Generator
- Network Version



# Version 1.9 (September 1989)

- Windows Based
- Dataflow Diagrams
  - Yourdon
  - Gane & Sarson
- Entity Relation Diagram
- Ward & Mellor
  - Dataflow
  - Structure Chart
  - State Transition Diagram
- Reporting