

# Whats new in BRIDGE 7

BRIDGE 7 is out! Next to new applications like API-Management and new features like OData Support, the BRIDGE comes in a revised design. Find below a summary of all new features and operational and technical improvements.

To use BRIDGE 7, you need a new BRIDGE license - please contact us at [info@e2ebridge.com](mailto:info@e2ebridge.com) for more information. Our [Bridge 7 Migration Guide](#) will help you with the task of updating your systems, then.

## Main Features

### API Management

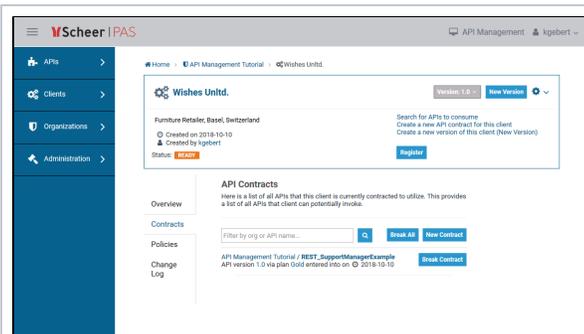
BRIDGE 7 comes with **Scheer PAS API Management**. API Management offers a maximum of control regarding administration and optimization of your APIs. You can setup different permission levels for usage and administration of APIs, services and clients, and control the publishing of contracts in real-time in a flexible way. Access to the interfaces is possible either via (immutable) contracts or via use of public APIs.

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The API Management solution has three components which can be deployed on different host to get maximum performance and stability:

- The Gateway Server enforces all the policies at runtime. It is powered by Eclipse Vert.x to get maximum performance with low resource consumption.
- The Gateway Manager can manage one or more BRIDGE gateways.
- The Auth Server does authentication of service consumers and service developers.

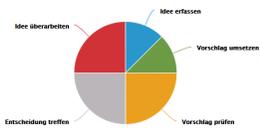
API Management is based on apiman and Keycloak.

For more information, refer to the [API Management](#) documentation.

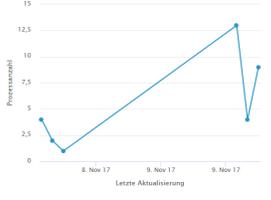
## Process Mining

The Process Dashboards have been completely redesigned. The new **Scheer PAS Process Mining** allows for intuitive and easy creation of new analyses and comes with significant performance improvements.

Ideenmanagement (offene Prozesse)



Ideenmanagement (Prozessanzahl/Tag)



Ideenmanagement (Prozesse pro Schritt)



Process Mining comes with a personalized dashboard view. Manage all your analyses on one page!

- You can create templates for analyses you need frequently, and these templates can be shared among users.
- Choose between a variety of diagram types: tachometer, pie chart, line chart, area chart, area spline chart, column chart, bar chart, spline chart, radar chart.

Create New Analysis

Choose Chart Type or Template    Choose Process    Allocating the Axes    **4** Setting Filters (optional)

Applying no filter

Applying the following filter:

Consider all of the following rules

End Event	is defined	
Process Duration	>	Value

<    >

=

≠

≥

>

is not defined

is defined

CANCEL    BACK    NEXT    CREATE ANALYSIS

Create your diagrams to your needs.

- You can customize the look of your charts by changing the colors, sorting the displayed data and defining if data labels should be displayed.
- Define a secondary axis to your chart to compare two key performance indicators.
- Filter your process data by complex filters that can be combined (and/or). It is even allowed to apply a filter multiple times to the same key performance indicator to compare data of e.g. different time ranges.

The screenshot displays the SAP Process Explorer interface. On the left, a process flow diagram shows a sequence of steps: 'Start', 'Anfrage einleiten', 'Anfrage prüfen', 'Anfrage anfordern', 'Anfrage annehmen', 'Anfrage bearbeiten', 'Anfrage abschließen', and 'Ende'. On the right, a bar chart titled 'Identifizierung der häufigsten Prozessvarianten' shows the frequency of different process variants. The most frequent variant is highlighted in blue.

Variantenname	Anteil
Identifizierung der häufigsten Prozessvarianten	23.64 %
...	13.94 %
...	12.12 %
...	9.09 %
...	4.24 %
...	4.24 %
...	3.03 %
...	3.03 %
...	2.42 %
...	24.24 %

Below the chart, it indicates '1/39 Varianten' and '39/165 Instanzen'.

Analyze process variants and their frequency with the Process Explorer to get a deeper insight to your business processes and find potential for optimization.

- The Process Explorer visualizes the most visited paths and processing times.
- You can apply complex filters to select the considered process instances.
- Export the process instance data to Excel, CSV, ODS or HTML.

For more information, please refer to [the official Process Mining documentation](#) (German only).

## New Adapters

### EDI

The EDI Adapter now also supports OFTP2 and AS2 formats:

- OFTP 2 is a specification for the secure transfer of business documents over the Internet.
- AS2 is a specification about how to transport data (like Edifact documents) securely and reliably over the Internet.

The feature includes pre-built service templates including a user interface for configuration of transport channels and communication partners.

### OData Support

The BRIDGE now supports OData for querying and updating databases using REST. The protocol allows Web clients to get, publish and edit database resources using simple HTTP messages. Using OData, you can easily integrate with SAP NetWeaver Gateway, Microsoft Dynamics NAV, Microsoft Office 365, Microsoft Sharepoint and more.

For more information on the OData Adapter, please refer to [OData Adapter](#) and [Importing OData Entities and Services](#).

### Alias Reader

The Alias Reader enables you to get the details that have been specified on any alias from the component diagram. You can now get the alias details with an action node with stereotype <<AliasReader>>. This adapter replaces the deployment macros `get...FromAlias()`.

For more information on the Alias Reader, please refer to [Alias Reader](#).

## Persistent State Control Adapter

The Persistent State Control Adapter gives access to persistent state metadata directly from within a service (self context). With this adapter, you can:

- list all persistent state owners
- get the name of an owner
- list all available persistent state classes
- get an object count per persistent state class
- get the persistent state metadata
- query persistent state objects
- delete persistent state objects

The query functionality in particular is powerful and allows for very complex queries. See [Retrieving Persistent State Metadata with the PersistentStateControl Adapter](#) for more details.

## Improved Adapters

### Persistent State Adapter: Performance Improvements With External Persistent State Attributes

You can mark attributes of a persistent state class as external by applying stereotype <<External>>. This can speed-up persistent state performance if you have huge data objects (like e.g. big blobs, IDocs or PDFs) that are only used in few transitions.

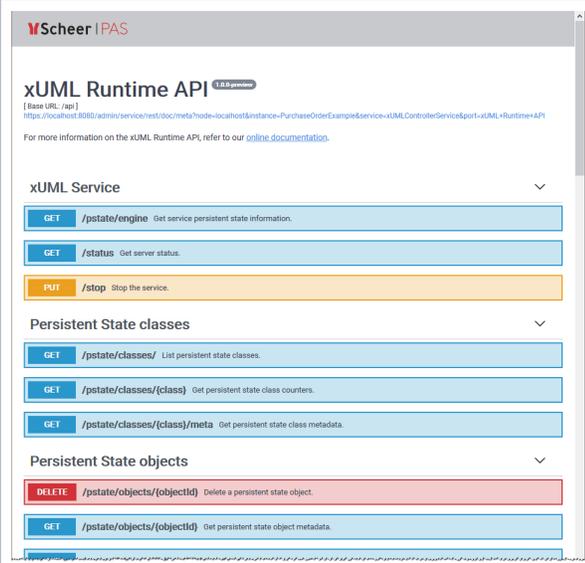
External persistent data is handled differently compared to the internal data:

- External persistent data will be stored separately. You can even store external data to a different database (see [Persistent State Components](#)).
- External persistent data will only be loaded on demand.
- External persistent data will only be saved if loaded before.

For more information, refer to [Persistent State Classes](#) and [Getting Copies of Persistent State Objects](#).

## xUML RUNTIME API

As of BRIDGE 7.5.0, the xUML Runtime provides a REST interface to the controller service of each xUML service. Initially, you can access persistent state resources via this API, but we plan to add more service related resources.



The screenshot displays the xUML Runtime API interface. At the top, it shows the Scheer IPAS logo and the API title 'xUML Runtime API' with a version indicator '4.0.0 preview'. Below the title, there is a 'Base URL /api' and a specific URL: 'https://localhost:8080/admin/service/rest/doc/meta?node=localhost&instance=PurchaseOrderExampleService-xUMLControllerService&port=xUML-Runtime-API'. A link to 'online documentation' is provided. The interface is organized into three main sections: 'xUML Service', 'Persistent State classes', and 'Persistent State objects'. Each section contains a list of REST endpoints with their respective HTTP methods and descriptions. For example, under 'xUML Service', there are endpoints for GET /pstate/engine, GET /status, and PUT /stop. Under 'Persistent State classes', there are GET endpoints for /pstate/classes/, /pstate/classes/{class}, and /pstate/classes/{class}/meta. Under 'Persistent State objects', there is a DELETE endpoint for /pstate/objects/{objectId} and a GET endpoint for /pstate/objects/{objectId}.

Bridges as of BRIDGE 7.5.0 provide an [OpenAPI 2.0 Specification](#) of the controller service for documentation and testing purposes. Via a link on the xUML service page, you can access a REST service documentation page where you can inspect the service interface and make HTTP calls on the service.

# Continuous Delivery with the BRIDGE

- Based on a straightforward and repeatable process, the continuous delivery approach helps with building, testing and releasing software faster. You can automate your build, deploy, and testing processes using an automation tool together with the BRIDGE command line tools. For more information, please refer to [Continuous Delivery with the BRIDGE](#).
- For automation purposes, all Bridge functions can be accessed via a REST interface. For more information, please refer to [BRIDGE API](#).
- The BRIDGE Command Line Interface has been reworked and now offers many new features. You now can access most of the actions of the BRIDGE API via the CLI.
  - viewing and setting the service preferences and the service settings of xUML, Node.js and Java services
  - advanced handling of xUML services (list services, view status, view/change service documentation, list/cancel running sessions, download repository)
  - resource handling (list, upload, delete)
  - listing global variablesRefer to [GitHub](#) for more information.

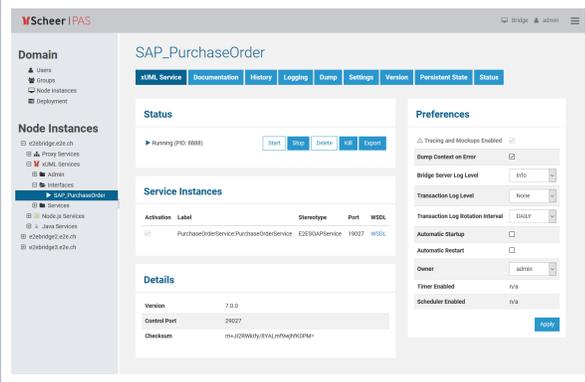
## Operational Improvements

### Operating System Support

The following operating systems now are supported officially as a system to run the BRIDGE on:

- Windows Server 2016
- Windows Server 2019

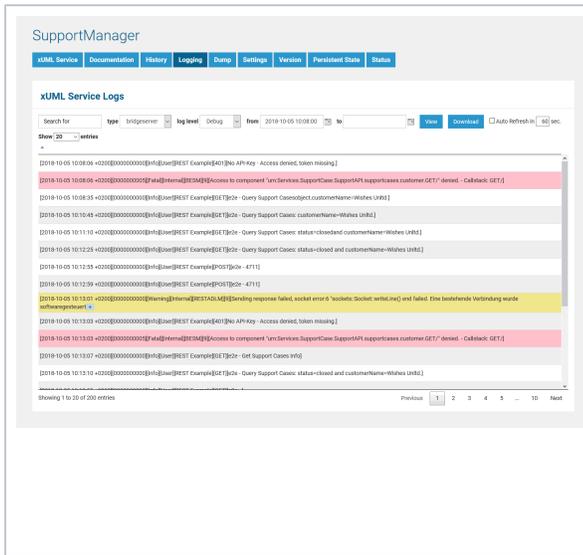
### New BRIDGE Design



The screenshot shows the BRIDGE web interface for the 'SAP\_PurchaseOrder' service. The interface is divided into several sections: 'Status' (showing a running instance with 'Start', 'Stop', 'Delete', 'Add', and 'Copy' buttons), 'Service Instances' (a table with columns for Activation, Label, Stereotype, Port, and WSDL), 'Details' (showing version 7.1.0, build 2027, and checksum), and 'Preferences' (with various settings like 'Tracking and Monitoring Enabled', 'Dump Content on Error', 'Bridge Server Log Level', 'Transaction Log Level', 'Transaction Log Rotation Interval', 'Automatic Startup', 'Automatic Restart', 'Owner', 'Timer Enabled', and 'Schedule Enabled'). A left sidebar shows a navigation menu with 'Domain', 'Node Instances', and 'Interfaces' sections.

We have redesigned the user interface of the BRIDGE to give you a smoother user experience.

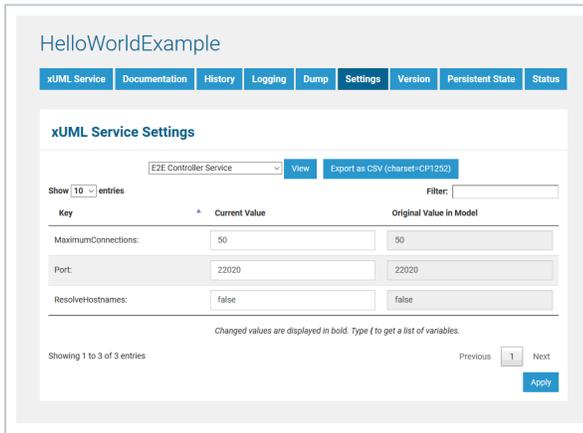
### Improved Search in Log Files



We have refurbished the **Logging** tab in the user interface of the BRIDGE. You now can use regular expression to search the logs and even search throughout all existing logfiles of the service.

For more information, please refer to [Logging of xUML Services](#).

## Configurable Service Port Numbers



Front-end service port numbers now are configurable on the BRIDGE.

## Service Version and Improved BRIDGE Deployment

## Deployment

xUML Repository	HelloWorldExample.rep	
Service Name	HelloWorldExample	
Deploy Settings and Preferences from Repository	<input type="checkbox"/>	
Startup Service	<input type="checkbox"/>	
	<b>New</b>	<b>Deployed</b>
Service Version	1.1	1.0
Compiler Version	7.1.0	7.1.0
Build Time	2018-10-09 11:00:41	2018-10-05 09:24:42

[Overwrite](#) [Cancel](#)

You now can specify a service version in the component diagram, similar to the library version number (see [Creating a Component Diagram > Defining the Composite](#)). The service version will be visible on the BRIDGE in several places, e.g. on the improved **Version** tab (see [Additional xUML Service Tabs](#)).

The deployment dialog now shows a table with service details, e.g. the new service version (see [Deployment of xUML Services](#)). Additionally, if the service to be deployed is already existent, you can now compare the service details of the new and the deployed service. This helps you to better decide, if you are deploying the correct repository.

## Technical Changes

We updated some underlying software to newer versions:

- Node.js updated to version 12
- Java updated to version 11
- proxy updated to Apache httpd version 2.4
- TLS 1.3 supported
- Tomcat updated to version 9

## New Features for Developers

Lots of new features, improvements and bug fixes for BUILDER, ANALYZER and BRIDGE help developers to create better services:

