

# Business Process as a Service BPaaS Allocation

Training Material



funded by EC in H2020

CloudSocket

# MOTIVATION

The logo for CloudSocket, featuring a stylized cloud shape composed of overlapping circles and rounded rectangles in shades of light blue and grey.

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# Description of Business Process as a Service



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# Motivation

- Design environment generates abstract workflow
- Implementation Environment needs concrete end points to run
- Allocation environment is the bridge that receives a design package and transforms it into a sellable (and later executable) bundle package

# BPAAS BUNDLE

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# BPaaS Bundle Overview



JSON

BPMN2.0



DMN

WS-Agreement

## BPaaS Bundle

Design Package

Marketplace Metadata

Deployment Plan

Technical KPIs

Adaptation Rules

Service Level Agreement

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# Design Package

The design package is the element which is transformed in the allocation tool. It provides the steps to be executed without the specific implementation details. It is composed by:

- business process model - explain
- business process image - explain
- workflow model - explain
- workflow image - explain
- kpi model - explain
- kpi image - explain
- dmn model - explain
- dmn image - explain

# Marketplace Metadata

Since the bundle is published in the Marketplace it is important to help the customer find the correct quicker. To do so, through the allocation tool it is possible to define the following:

- Description - explain
- Tags - explain
- Categories - explain
- price model - explain
- commercial image - explain



# Deployment Plan

A generated BPaaS bundle is only complete when it contains the deployment plan. The deployment plan is the file which specifies the end points selected to run during the execution.

The file generated contains the following:

- SaaS selection - explain
- IaaS\PaaS infrastructure definition - explain
- Software component allocation on IaaS\PaaS - explain
-

## Technical KPIs

The execution environment offers a set of sensors that give continuous feedback about the status of the machine. This information can be used, both to dynamically change the infrastructure (ex source additional resources) and to guarantee that certain levels of performance are respected (read later SLA)

In the allocation tool the user can define:

- sensors used - explain
- kpi properties as schedule and window - explain
- kpi formula - explain

## Adaptation Rules

Written based on the Technical KPI's allow for dynamic allocation of resources based on user defined metrics. As example, if the system is overloaded with requested one can define to automatically increase resources in such cenario.

Give example - Explain

# Service Level Agreement

When two parties make a deal on the required levels of performance, said levels can be coded in the allocation tool together with the penalizations in case of fall bellow accepted values.

Show Example - Explain

# ALLOCATION TOOL

The logo for CloudSocket, featuring a stylized hand icon composed of several rounded rectangular segments in shades of blue and grey, positioned behind the text.

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# Allocation Tool demo

Allocation Tool Demo Environment: [https://hs21.fhoster.com/cloudsocket/Allocation\\_development](https://hs21.fhoster.com/cloudsocket/Allocation_development)

## Allocation demo

Welcome bwcon

Logout

### Allocation Environment

My bundles

Bundles

Bundles  
Overall list



Name	Status	Description	Fee	Currency	Frequency	Tags	Abstract w
After sales repair management	PUBLISHED	After-sales Repair M	300.00	Euro	One Time	after sales	✓
Send Invoice basic	DRAFT	The bundle provides	39.90	Euro	One Time	CRM, Customer billing	✓
Send Invoice Customized	DRAFT	The bundle provides	64.55	Euro	One Time	CRM, Customer billing	✓
Send Invoice IaaS (demo)	CONSISTENT	The bundle provides	20.00	Euro	One Time	Customer billing data	✗
Send Invoice IaaS Europe	PUBLISHED	The bundle provides	20.00	Euro	One Time	Customer billing data	✗
Send Invoice SaaS Europe	PUBLISHED	The bundle provides	15.00	Euro	One Time	Customer billing data	✗
Send Invoice SaaS Worldwide	PUBLISHED	The bundle provides	10.00	Euro	One Time	Customer billing data	✗
Social Media Campaign - Basic	PUBLISHED	This business proces	15.00	Euro	One Time	Facebook, LinkedIn, si	✓
Social Media Campaign - Premium	PUBLISHED	This business proces	40.00	Euro	One Time	Facebook, image/vid	✓
Social Media Campaign on Facebook	PUBLISHED	This bundle provides	10.00	Euro	One Time	Campaign, Facebook	✗
Social Media Campaign on Twitter	PUBLISHED	This bundle provides	10.00	Euro	One Time	Campaign, Social, Twi	✗
Software Issue Tracking Basic	PUBLISHED	This business proces	29.99	Euro	One Time	after sales, CRM, issu	✓
Software Issue Tracking Enterprise	PUBLISHED	Tailored on SME nee	99.99	Euro	One Time	after sales, CRM, issu	✓
Software Issue Tracking Premium	PUBLISHED	Tailored on SME nee	49.99	Euro	One Time	after sales, CRM, issu	✓

- Create
- Open
- Edit
- Create copy
- Delete

14 objects



Last logged in: 14-Feb-2017 10:10

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# Allocation Tool

Allows the creation of a deployment plan (on the right) to be executed by a machine with the convenient human friendly user interface.

The screenshot shows the Allocation Tool web interface. The top navigation bar includes 'Bundles' and 'Bundle' tabs. The main content area displays details for a bundle named 'Send Invoice IaaS (integration test)'. The bundle is in a 'PUBLISHED' status. Below the bundle details, there are tabs for 'Design package', 'Marketplace metadata', 'Deployment', 'Key Performance Indicators', 'Sla', and 'Adaptation'. The 'Deployment' tab is active, showing a 'Deployment plan' section with a link to 'deployment-plan.xml'. Below this, there are tabs for 'Infrastructures', 'Software Components', and 'Atomic Services'. The 'Software Components' tab is active, displaying a table with one component: 'Ninja Invoice Component'. The table has columns for 'Name', 'Service tasks', 'Service type', and 'Infrastructure'. Below the table, it indicates '1 object'.

Name	Service tasks	Service type	Infrastructure
Ninja Invoice Component	Create new client in t	REST	RegionOne

```
<?xml version="1.0" encoding="UTF-8" ?>
<camel:CamelModel xmlns:camel="http://www.apache.org/camel/schema/2.0" xmlns:xsi="http://www.omg.org/XMI" xmlns:xsi="http://
www.w3.org/2001/XMLSchema-instance" xmlns:camel="http://www.cloudsocket.eu/2016/05/camel"
xmlns:deployment="http://www.cloudsocket.eu/2016/05/camel/deployment" xmlns:provider="http://
www.cloudsocket.eu/2016/05/camel/provider" xmlns:requirement="http://www.cloudsocket.eu/2016/05/camel/
requirement" xmlns:type="http://www.cloudsocket.eu/2016/05/camel/type" name="BundleCamelModel">
  <applications name="ApplicationModel" version="1.0" description="This is the CAMEL file generated by
the Allocation Environment" owner="//organisationModels.1/users.0" deploymentModels="//
@deploymentModels.0"/>
  <deploymentModels name="DeploymentModel">
    <internalComponents xsi:type="deployment:InternalServiceComponent"
name="NinjaInvoiceComponentSoftwareComponent" serviceType="REST">
      <providedCommunications name="Port80" portNumber="80"/>
      <configurations xsi:type="deployment:ScriptConfiguration" name="Configuration"
downloadCommand="sudo apt-get update; sudo apt-get -y install git; sudo git clone https://omi-gitlab.e-
technik.uni-ulm.de/cloudsocket/invoice-ninja.git /opt/invoice-ninja/" uploadCommand=""
installCommand="./opt/invoice-ninja/scripts/invoice-ninja-install.sh install & & ./opt/invoice-
ninja/scripts/invoice-ninja-install.sh config" configureCommand="" startCommand="./opt/invoice-ninja/
scripts/invoice-ninja-install.sh start"/>
      <requiredHost name="RequiredHost"/>
      <workflowTaskIDs>sid-5A3DD949-EEB3-43C6-894F-583B004E4F05</workflowTaskIDs>
      <workflowTaskIDs>sid-38CB8730-321B-4FB1-87E4-0890E792A3E8</workflowTaskIDs>
      <workflowTaskIDs>sid-C53D6453-6476-421B-AB90-18EC91244536</workflowTaskIDs>
      <workflowTaskIDs>sid-23023863-46D1-49A6-B196-D84E65723D44</workflowTaskIDs>
      <workflowTaskIDs>sid-AD1B0030-8830-4DBC-80A9-F6757AF5E958</workflowTaskIDs>
      <workflowTaskIDs>sid-3A7B806B-065D-4F9E-917E-96D2AF92671B</workflowTaskIDs>
      <workflowTaskIDs>sid-16934A2F-3FD4-4CE8-B893-282A351FD73E</workflowTaskIDs>
    </internalComponents>
    <internalComponentInstances xsi:type="deployment:InternalServiceComponentInstance"
name="NinjaInvoiceComponentComponentInstance" type="//@deploymentModels.0/@internalComponents.0"
endpoint="http://app.invoice-ninja.com/api/v1">
      <providedCommunicationInstances
name="NinjaInvoiceComponentComponentInstanceProvidedCommunicationInstance80" type="//
@deploymentModels.0/@internalComponents.0/@providedCommunications.0"/>
      <requiredHostInstance name="NinjaInvoiceComponentHostingInstanceRequiredHostIntance" type="//
@deploymentModels.0/@internalComponents.0/@requiredHost"/>
      <assignedWorkflowTaskIDs>sid-5A3DD949-EEB3-43C6-894F-583B004E4F05</assignedWorkflowTaskIDs>
      <assignedWorkflowTaskIDs>sid-38CB8730-321B-4FB1-87E4-0890E792A3E8</assignedWorkflowTaskIDs>
      <assignedWorkflowTaskIDs>sid-C53D6453-6476-421B-AB90-18EC91244536</assignedWorkflowTaskIDs>
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      <assignedWorkflowTaskIDs>sid-AD1B0030-8830-4DBC-80A9-F6757AF5E958</assignedWorkflowTaskIDs>
      <assignedWorkflowTaskIDs>sid-3A7B806B-065D-4F9E-917E-96D2AF92671B</assignedWorkflowTaskIDs>
      <assignedWorkflowTaskIDs>sid-16934A2F-3FD4-4CE8-B893-282A351FD73E</assignedWorkflowTaskIDs>
    </internalComponentInstances>
    <vms name="RegionOnesmallOmnistackUULMVM" vmRequirementSet="//@deploymentModels.0/
@vmRequirementSets.0">
      <providedHost name="ProvidedHost"/>
    </vms>
  </deploymentModels>
</camel:CamelModel>
```

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# CONCLUSION

The logo for CloudSocket, featuring a stylized cloud shape composed of overlapping circles and rounded rectangles in shades of light blue and grey.

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## Conclusion

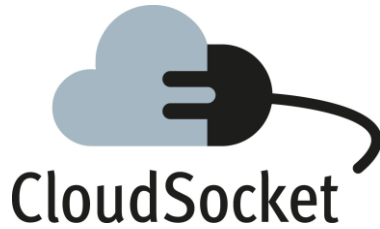
Allocation tool transforms an abstract design package into, potentially, many executable BPaaS bundles. Each bundle includes a deployment plan, with all the required complex instructions to be run in the execution environment. This complexity is completely abstracted from the tool user by the user interface.

# Stay in Touch

[www.cloudsocket.eu](http://www.cloudsocket.eu)

[@CloudSocketEU](https://twitter.com/CloudSocketEU)

[CloudSocket](https://www.youtube.com/CloudSocket)



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