

B3. Dynamic Real-time Infrastructure Planner (DRIP)

The attributes marked with a * are confidential and should not be disclosed outside the service provider.

Service overview																									
Service name	Dynamic Real-time Infrastructure Planner (DRIP)																								
Service area	compute																								
Service phase	alpha																								
Service description	The Dynamic Real-time infrastructure planner (DRIP) allows application developers to plan a customized virtual infrastructure based on application level deadline constraints and resource budgets, provisioning the virtual infrastructure using standardized interfaces (TOSCA and OCCl), deploy application components onto the virtual infrastructure, and start execution on demand.																								
Customer group	Any																								
User group	Distributed application developers																								
Value	Automated selection of optimal VMs and VM topology for an application workflow with deadline constraints; automatic provisioning of VMs according to the planned topology; automatic installation of application containers onto provisioned VMs from remote repositories.																								
Tagline	Optimised infrastructure planning and provisioning for time-critical applications.																								
Features	Partial critical path based VM infrastructure planning; Automated networked VM provisioning with support for multiple sites; Remote deployment of containerised application components onto provisioned VMs.																								
Service options	<table><tr><th>Option</th><th>Name</th><th>Description</th><th>Attributes</th><th></th></tr><tr><td>1</td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td></tr></table>					Option	Name	Description	Attributes		1					2					3				
Option	Name	Description	Attributes																						
1																									
2																									
3																									
Access policies	Policy-based.																								
Service management information																									
Service owner *	UvA (University of Amsterdam)																								
Contact (internal) *	Spiros Koulouzis: S.Koulouzis@uva.nl																								
Contact (public)	Zhiming Zhao: Z.Zhao@uva.nl																								

Request workflow *	<div>See: https://github.com/QCAPI-DRIP/DRIP-integration/wiki</div> <div><pre>graph TD RI[RI service developers] --> DCI{Data/computing intensive?} ESA[E-Science application developers] --> DCI EIO[E-Infrastructure operators] --> OCR{Offering cloud resources?} DCI -- Y --> HQE{High QoS/QoE requirements?} HQE -- Y --> RCR{Require Cloud resources?} RCR -- N --> DCC[DRIP will not be a direct choice for you.] RCR -- Y --> AFSC{Application defined control?} OCR -- N --> DCC2[DRIP can help you move towards Cloud.] OCR -- Y --> AFSS{Already have full software solution?} AFSS -- Y --> AFSC AFSS -- N --> DCC2 AFSC -- Y --> LDC[Looks like you can do all DRIP can!] AFSC -- N --> CSR{Complement with smart resource control?} CSR -- Y --> UDR[Use the DRIP solution] CSR -- N --> AFSC AFSC --> ACE{Already have Cloud engine for time critical deployment?} ACE -- Y --> LDC ACE -- N --> CTD{Complement with time critical deployment?} CTD -- Y --> UDR CTD -- N --> ACE ACE --> APV{Already have provisioning engine for large Virtual Infrastructure?} APV -- Y --> LDC APV -- N --> CPP{Complement with parallel provisioning?} CPP -- Y --> UDR CPP -- N --> APV APV --> ATCP{Already have Time critical planning?} ATCP -- Y --> LDC ATCP -- N --> WACS{Want an automated Cloud resource Solution?} WACS -- Y --> UDR WACS -- N --> ATCP</pre></div>															
Service request list	See: https://github.com/QCAPI-DRIP/DRIP-integration/wiki															
Terms of use	https://github.com/QCAPI-DRIP/DRIP-integration/wiki															
SLA(s)	No SLA at present.															
Other agreements	See: https://github.com/QCAPI-DRIP/DRIP-integration/wiki															
Support unit																
User manual	https://github.com/QCAPI-DRIP/DRIP-integration/wiki															
Service architecture																
Service components	<table><tr><th>#</th><th>Type</th><th>Name</th><th>Description</th><th>TRL [1]</th></tr><tr><td>1</td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td></td><td></td><td></td></tr></table>	#	Type	Name	Description	TRL [1]	1					2				
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1																
2																
Finances & resources																
Payment model(s)	Free.															
Pricing																
Cost *																
Revenue stream(s) *	Project funding (H2020 SWITCH, ENVRIplus, VRE4EIC),															
Action required																

[1] Technology Readiness Levels (TRL) are a method of estimating technology maturity of components during the acquisition process. For non-technical components, you can specify “n/a”. For technical components, you can select them based on the following definition from the EC:

- TRL 1 – basic principles observed
- TRL 2 – technology concept formulated
- TRL 3 – experimental proof of concept
- TRL 4 – technology validated in lab
- TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)

- **TRL 7** – system prototype demonstration in operational environment
- **TRL 8** – system complete and qualified
- **TRL 9** – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies)