# Compute Resource

#### SLA Context

SLA id	Xx
Name	Xx
Valid from date	Xx
Expire date	Xx
SLA Template	Хх

## Service Description Terms

Resource Description					
Provider	Provider Name	Service	Zone		
	TBD	TBD	TBD		
Resource	Parameter Resource type Appliance		Value		
			Compute (V	M)	
			TBD		
	Туре		TBD		
Description	A Virtual Machine hosting a preconfigured web server				

Security capability	Description	Controls (Framework)
Webpool	Capability of surviving to security incidents involving a web server, by implementing proper strategies aimed at preserving business continuity, achieved through redundancy and/or diversity.	BCR-01 (CCM)
Vulnerability Assessment	Capability of detecting the vulnerabilities a machine (along with the installed software) is subject to.	TVM-02(CCM)
DOS Detection	Capability of detecting and reacting to security attacks aimed at distrupting a system's availability.	IVS-13(CCM)
Secure Communication	Capability of securing the communication channel in terms of confidentiality	EKM-01, EKM-03, IAM-02, IAM-09, TVM- 02

### Properties

Metric	Description	Affected Security	Affected
		capability	Controls
Level of Redundancy	This metric sets the number of Web Container replicas. For example, for Level of Redundancy = 3, SPECS ensures that there are at least three Web Containers running.	Webpool	BCR-01 (CCM)
Level of Diversity	This metric sets the number of different Web Container types available on target VMs. For example, for L <i>evel of Diversity=2</i> , SPECS ensures that there are at least two different types of Web Container available.	Webpool	BCR-01 (CCM)
TLS Cryptographic Strength	It is a measure of the expected number of operations required to defeat a cryptographic mechanism. The values (level 1-8) are based on ECRYPT II recommendations 2012 (http://www.keylength.com/en/3/).	Secure Communication	EKM-01(CCM)
Forward Secrecy	It is a property ensuring that a session key derived from a set of long-term keys cannot be compromised if one of the long-term keys is compromised in the future.	Secure Communication	EKM-03(CCM)
HTTP Strict Transport Security	It defines a mechanism enabling web sites to declare themselves accessible only via secure connections and/or for users to be able to direct their user agent(s) to interact with given sites only over secure connections.	Secure Communication	IAM-02(CCM)
HTTP to HTTPS Redirects	It is the most common requirement on most servers which ensures that the connections are coming from customers using SSL.	Secure Communication	EKM-03(CCM)
Secure Cookies Forced	It is a measure enabling the use of secure cookies.	Secure Communication	EKM-03(CCM)
Certificate Pinning	It defines a new HTTP header that enables user agents to determine which Subject Public Key Info structures will be present in a web host's certificate chain in future TLS/SSL connections.	Secure Communication	IAM-09(CCM)
Scanning Frequency - Basic Scan	This metric sets the frequency of the basic software vulnerability scanning. For example, for <i>Scanning Frequency - Basic Scan = 24h</i> , SPECS ensures that software vulnerability scanning will be performed at least once every day.	Vulnerability Assessment	TVM-02(CCM)
List Update Frequency	This metric sets the frequency of updates of the list of known/disclosed vulnerabilities from OVAL/NVD databases. For example, for <i>List Update</i> <i>Frequency=12h</i> , SPECS ensures that the list of known/disclosed vulnerabilities will be updated at least once every 12 hours.	Vulnerability Assessment	TVM-02(CCM)

#### **Guarantee Terms**

SLO Name	Metric	Expression	Value
LoR	Level of Redundancy	>=	3
LoD	Level Of Diversity	>=	2
Scan Frequency	Scanning Frequency	<=	24h
List age	List Update Frequency	<=	24h

#### DBaaS

Consideration: which kind of DBaaS approach we aims at supporting?

**Solution 1:** The cloud service returns a VM, hosting a preconfigured DB (example MySQL).

**Solution 2:** The cloud service returns us a DB username and pwd. CSC is able to access the DB using the DB protocol (as an example the MYSQL protocol). CSP maintain the DB over its own resources.

In the following I show the SLA for **Solution 1.** 

#### **SLA Context**

SLA id	Хх
Name	Xx
Valid from date	Xx
Expire date	Xx
SLA Template	Xx

#### Service Description Terms

Resource Description					
Provider	Provider	Service	Zone		
	Name				
	Amazon	Aws-ec2	US-East		
Resource	Parameter		Value		
	Resource type		Compute (V	M)	
	Appliance		<ami-id></ami-id>	d>	
	Туре		C1.medium		
Description	A Virtual Machine hosting a preconfigured DB				

Security capability	Description	Controls (Framework)
pooling	Capability of surviving to security incidents involving a single VM, by implementing proper strategies aimed at preserving business continuity, achieved through redundancy.	BCR-01 (CCM)
Vulnerability Assessment	Capability of detecting the vulnerabilities a machine (along with the installed software) is subject to.	TVM-02(CCM)
DOS Detection	Capability of detecting and reacting to security attacks aimed at distrupting a system's availability.	IVS-13(CCM)
DB access control	Capability of controlling the communication channel against the DB	(TODO)

Data confidentiality	Capability of granting confidentiality over data stored in the database	(TODO)
Data Anonimity	Capability of granting anonymity over data stored in the database	(TODO)

### Properties

Metric	Description	Affected Security capability	Affecte d Control s
Level of Redundancy	This metric sets the number of Web Container replicas. For example, for Level of Redundancy = 3, SPECS ensures that there are at least three Web Containers running.	Webpool	BCR-01 (CCM)
Level of Diversity	This metric sets the number of different Web Container types available on target VMs. For example, for Level of Diversity=2, SPECS ensures that there are at least two different types of Web Container available.	Webpool	BCR-01 (CCM)
Scanning Frequency - Basic Scan	This metric sets the frequency of the basic software vulnerability scanning. For example, for <i>Scanning Frequency</i> - <i>Basic Scan</i> = 24h, SPECS ensures that software vulnerability scanning will be performed at least once every day.	Vulnerabilit y Assessment	TVM- 02(CCM )
List Update Frequency	This metric sets the frequency of updates of the list of known/disclosed vulnerabilities from OVAL/NVD databases. For example, for <i>List Update Frequency=12h</i> , SPECS ensures that the list of known/disclosed vulnerabilities will be updated at least once every 12 hours.	Vulnerabilit y Assessment	TVM- 02(CCM )
k-anonimity	Given person-specific field-structured data, produce a release of the data with scientific guarantees that the individuals who are the subjects of the data cannot be re-identified while the data remain practically useful. http://www.worldscientific.com/doi/abs/10.1142/S0218488502 001648	Data Anonimity	(TODO)

### Guarantee Terms

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