



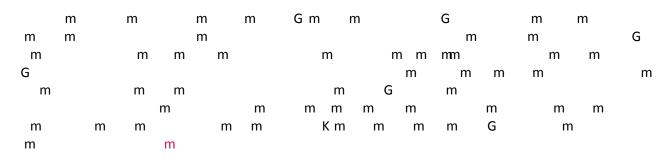
Technical Guidelines for the implementation of minimum security measures for Digital Service Providers

K





# About ENISA



#### **Contact**

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### **Acknowledgements**

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#### Legal notice

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#### **Copyright Notice**

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ŀ				
		m	m	
	m			



# Executive Summary

			m m	m	m	m		m
	m m		m m m m	m m r	m n	m m m m G m	m m m m	m G
K m	G m m	G m	m m m	m m	m m m	m mm m G m	m m m	K m m
K	m m	n m	m m n m	m	m m m m m	m	m m m	m
m r m m	m m	m m	m m mn mm r m m	m m m		m m m m m	m	m m
G G m		m K m m m G	m m	n m m	m K	m	m m m	m
m	m m	G m m	m m	n m K m G m m m			m m m m m m	m m m
	m		G m m m	m m mm m m m m	m	m m m G m m		m m m m
•		m				m	m m	
	m m	n	m m r	m m n m n m G			m m	

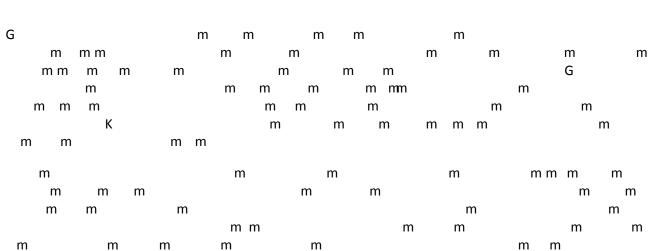


# 1. Introduction

### 1.1 Background

#### 1.1.1 General introduction





#### 1.1.2 Objectives

m m m

- m m m m
- K m m m m

#### 1.1.3 Scope & Target Audience

- m m m
- •
- •

m G m m

#### • Online marketplaces:

An online marketplace allows consumers and/or traders to conclude online sales and service contracts with traders, and is the final destination for the conclusion of those contracts. It does not



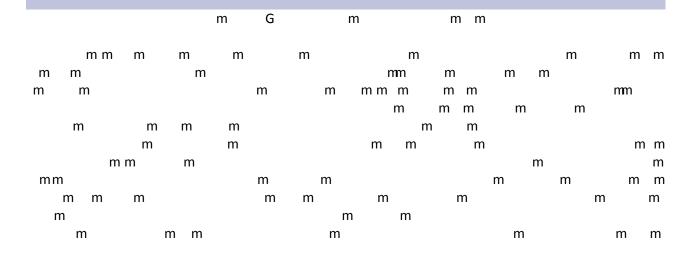
cover online services that serve only as an intermediary to third-party services where a contract can ultimately be concluded. It therefore does not cover online services that compare the price of particular products or services from different traders, and then redirect the user to the preferred trader to purchase the product. Computing services provided by the online marketplace may include processing of transactions, aggregations of data or profiling of users. Application stores, which operate as online stores enabling the digital distribution of applications or software programmes from third parties, are to be understood as being a type of online marketplace

#### • Online search engines:

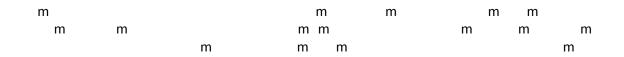
An online search engine should allow the user to perform searches of in principle all websites on the basis of a query on any subject. It may alternatively be focused on websites in a particular language. The definition of an online search engine provided in this Directive should not cover search functions that are limited to the content of a specific website, irrespective of whether the search function is provided by an external search engine. It should also not cover online services that compare the price of particular products or services from different traders, and then redirect the user to the preferred trader to purchase the product.

#### • Cloud computing service providers:

Cloud computing services span a wide range of activities that can be delivered according to different models. For the purposes of this report, "cloud computing services" means services that enable access to a scalable and elastic pool of shareable computing resources. The term "computing resources" covers resources such as networks, servers or other infrastructure, storage, applications and services. "Scalable" means that, in order to handle fluctuations in demand, computing resources are flexibly allocated by the cloud service provider irrespective of the geographical location of the resources.



#### 1.1.4 Document overview





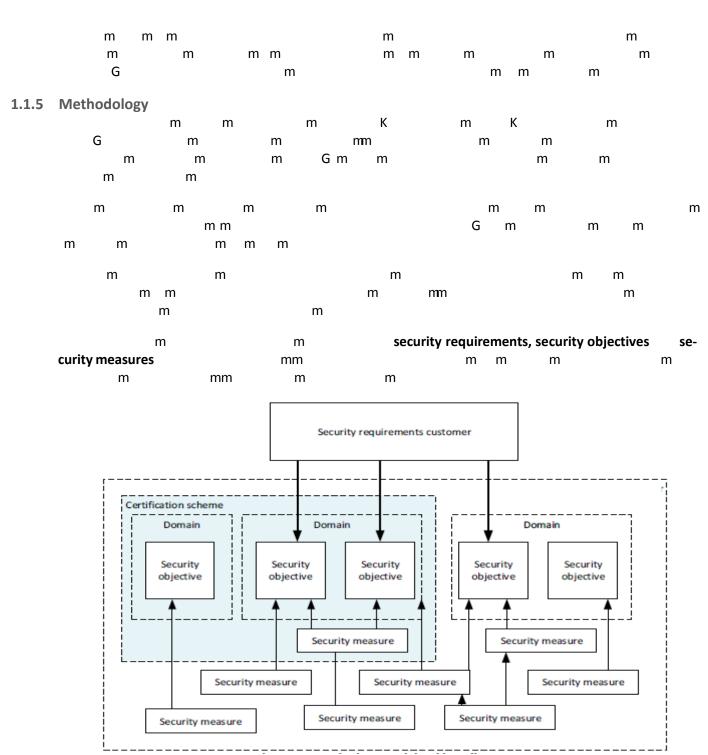


Figure 1: Terminology explained in a diagram extracted from "Cloud Certification Schemes Meta framework"

m m m m m m



•	Security requi	rement	•											
	m					G	m	า			m			
								m	n	n	m		m	
	m	m												
•	Security object	tives:												
	m		m						m			m	m	
			m			m			m	m	1	m		m
			m		m			m		m		m		
	m	m				m	1		m			m	m m	
•	Security meas	ures:												
	m					m			r	n				
	m		m	m	m	n	n	m						

• ISO/IEC 27001:

• CSA CCM: m m m K

■ BSI C5: m m m m m m m m m m

■ COBIT5: m m m G

■ CCS CSC: G m m m m

• OCF: K GG G K G

PCI DSS: G G m

 $\mathsf{m} \qquad \mathsf{m}$ 

■ CES: m m m m



# 2. List of security objectives and measures for DSPs

# 2.1 **Description**

m		m		m														
•		m	m		m													
•	m	m	m	m			m	m										
•							r	n			m		m					
	m	m				r	n	m		m				m				m
		m						m	m		m	m						
m m				m		m				m								
		m	m					m		m	m		m	m		m	m	
m			m	m		m	m	m	m				m		m			

SOPHISTICATION LEVEL	DESCRIPTION O	F SOPHISITICATION	LEVELS			
		m	1	m	m	
	G m m	m m	m	m	m	m
G	m m	m		m	m	m
	m m m	m m	m	m m m m m m	m m m	m
m	m	m m m	m	m m	m m m	m
m m		r	m m			
m m	m	m G	m	m	m m	
m	m m				m	n
m	m m	m	m r	m m m	m m	m m m
m			'		111	
	m	m m		m		
m			m			m

m

G



#### 2.2 The role of risk assessment

m mm mm G m m m m m m m m m m K m mm mm m m m m m m m m m Κ m m

## 2.3 SO 01 - Information security policy



### Security measures within sophistication levels

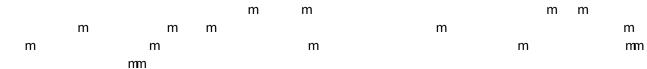
LEVEL	SECURITY MEASURES	EXAMPLES
	• m m m m m m m m m m m m m m	• m m m m m m m m
	<ul> <li>m m m m</li> <li>m m</li> <li>K m m</li> <li>m m</li> <li>m m</li> </ul>	• m m m m m m m m m m m m m m m m m m m
		• G m m m m m m m m m m m m m m m m m m
		o m m



<u>ISO27001:</u> G K K		m	K	K K	K K	к к
CSA CCM: K	K	K K	К	K K	K m	1
BSI C5: G	G G					
CCS: m m K	m K	m K	К	m m K		К
OCF: K	K K	К	K K	К	K K	К К
NIST: G	m	m m	m			
PCI-DSS:	K	m		m m	m	m

# 2.4 SO 02 – Risk Management

Description



LEVEL	SECURITY IV	1EASURES			EXAI	MPLES						
	• m m m m	m m m m	m m m m	m m m	•	m	m m	m	m m	m	m	m
	• K	m m	m									
	• m	m mm	m	m m	•	m m o	m	m	m	m mm m	m mm	





LEVEL	SECURITY MEASURES	EXAMPLES
	• m m m • K m m	m m G m mm m m
	m m m     m      K m m     m m m     m m m	• m m G mm m m m G m m m G m m m m m m m
	m m m	• m m m m m m m m m m m m m m m m m m m



ISO27001:	G m	m			
CSA CCM:	m G	K		m m m	
К		m K K	m m m r	K n	G
BSI C5: G	G G	K			
CCS:	K	m	m m	m K	
OCF: m	K	m			m
m m			G G G K K K		G m K
K K		K			
GK GK	GK GK	G K G K	m GK GK GK GK G m	K	G K
NIST: G K	m m	ı m	m m m		m
PCI-DSS:	К	m	m m	m m	

# 2.6 **SO 04 – Third party management**

#### Description

•	m	m m	m
	m m m	m	
m	m m	m m	

LEVEL	SECURITY MEASURES	EXA	AMPLES					
	• m		•	m			m	
		m	•	m	m			
	• G		•	G		m		
	m		•	m		m		m
	m			0			m	
	• m m	m		0				
	m			0	m	m		



LEVEL	SECURITY MEASURES	EXAMPLES	
	• m m m	o m m	
	m	0	
	• m	o m m	
	m m m m	o m m	
		• m G m G m m m	
		m m	
	• m m m	• m m m m	
		• m m	
	• m m	m m m • m m m m	
	m m	• m	
	m m m	• m m	
	• m m m	• m m m	
	• m m	m	
	m m	○ K m m o m	
	• K m	o m m m m	
		o m	
		• m mm	
	• m		
	mm	• m m m m • m	
	• m m	• G m m m	1
	m m		
	m m	o m m m	
		o G m m m m	



# 2.7 SO 05 – Background checks

Description

m m



LEVEL	SECURITY MEASURES		EXAMPLES
	• m	m	• m m m
	• G m	m m m	

<u>ISO27001:</u>	m	m	m m	
CSA CCM:	(	m		
BSI C5:				
CCS:	m	K	К	m
OCF:				
NIST: G			m	m m m
PCI-DSS:	К	m	m m	m m

# 2.8 SO 06 – Security knowledge and training

Description

LEVEL	SECURITY MEASURES				EXAMPLES					
	•	m	m	•	m	n m	m m			
	m			•		""		m		
	•	m								
	• G	m	m m	•	m m			r	m m	



LEVEL	SEC	CURITY	Y MEA	SURI	ES				EX.	AMPLES								
			m				m		•	m	m	m	m m	m	m n m			m
	•		m			m			•	m	m							
	•	m m	m	m m	m n	n n	n m											
	•	m	m	m		m		m	•	m					m	m m		
		m	m		m			m	•	K		m		n				
			m	m	m		m	ı	•	m	m m	m		m ı	m	m m	m m	
	•	<b></b>		m			m	m	•		m m	n	n	m m	m m	m		
	•	m m				m	m	ı										
	•	m	m m		m m	m	m	m m										
			m				mı											
	•	m m	1	m	m m	mı	m m m	m										



ISO27001:			
CSA CCM: K	m		
BSI C5:			
COBIT5: G	G G	G	
CCS: m K	m K	К	m
OCF:  m K  K K K	m K K K m	K K K K m	к к
NIST:	m		
<u>PCI-DSS:</u> m m m m	m G	m K m G m m	m m

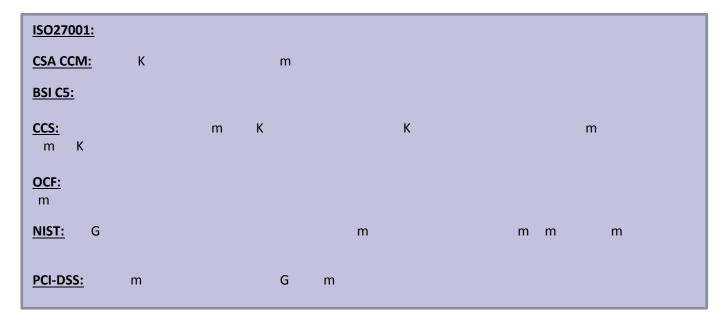
# 2.9 **SO 07 – Personnel changes**

Description

LEVEL	SECURITY MEASURES	EXAMPLES	EXAMPLES							
	• mm m m m m m m m m m m m m m m m m m	• m m m  m m m m  m m m m	m m							
	• G m m m m m m m m m	• m mmm m m m m m m m m m m m m m m m m	m mm m m m m m							

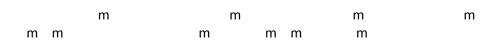


LEVEL	SEC	SECURITY MEASURES					EXAMPLES							
	•	G r m m		m m	m m	•	m		m				m	m
	•	m m			m	•		m	m m	m	r	n		
	•	m m m	m	m m	m	•	m mm m r	m	m m	m				
	•	m m m	m											



# 2.10 SO 08 – Physical and environmental security

Description





LEVEL	SECURITY MEASURES	EXAMPLES	
	• m m m m m m m m m	• mm m m m mm m	1
	mm	• m m m • m m	
	• m m m m m m m m m m m m m m m m m m m	• mm m m m	
	• m m m		
	• m m m m m m m m m m m m m m m m m m m		
	• G m m m m m		
	• m m m		
	• m m m m m m m m m m m		
	• m m m m		
	• m m m m m		



LEVEL	SECURITY MEASURES	EXAMPLES
	• m m m	m m m m m
	m	
	• m m m m	
	• m	m
	m m m m m m m	
	• m m m m	

ISO27001:											
CSA CCM:		К									
BSI C5:				K							
CCS:											
OCF:											
											m
NIST: G	<					m	m		m		
m					m	m		m		m	m
G	m		m			m		m	m m	m	
G	m		m			m		m	m m	m	
PCI-DSS:			G			m		m m			
		m	m								



# 2.11 **SO 09 – Security of supporting utilities**

### Description

Security measures within sophistication levels

LEVE	EL SECURITY N	MEASURES		EXAM	IPLES			
	m	m m		m	m m	m	m	
	• G m • G	m m m m m	m		m m m	m m m m m m	m m m mm m m	m m
	•	m m m m	m m	m	mm	m m n	nmm m m m m	mm

### Mapping

<u>ISO27001:</u> G G **BSI C5:** Κ CCS: OCF: m G Κ m G G G G G G G m m Κ G G G G G G G G G G G m G G G m



# 2.12 **SO 10** – Access control to network and information systems

Description

LEVEL	SECURITY MEASURES	EXAMPLES
	• G m m m m m m m m m m m m m m m m	<ul> <li>m m m m</li> <li>m m m m m m</li> <li>m m m m m m</li> <li>o m</li> </ul>
		o m m
	• G m m m m m m m m m m m m m m m m	• m m m m m m m m m m m m m m m m m m m
	• m m m m	<ul> <li>mm m m m m m</li> <li>m</li> <li>m m m m m</li> <li>m m m m</li> <li>m m m</li> </ul>
	• K m m m m m m m m m m m m	m m      m m m m      m m
	• m m m m m m m m m	
	• m m m m m m m m	
	• m m m m m m	
	• m m m	• m m m m



LEVEL	SECURITY MEASURES	EXAMPLES								
	m m	• mm m m m m m m m								
	m m	m m m m								
	• m m m	m m								
	m m	• m m m m m								
		• m m m m m m								
	• m m m	• m m m								
	m	• m m								
	m m									

<u>ISO27001:</u> G G	G G G G	G G G G
CSA CCM:	к к к к	K m
BSI C5: G K G	K GK GK GK	GK GK GK GK GK
COBIT 5: G	G	G
ccs:	m m K	m m m K m m
OCF:     G    G     K    K	m K	mmmmKGGGGGmmKKKKK
GK GK (	GK GK GK GK	m GK GK GK C GK GK GK G K
NIST:	m m	m m m m
PCI-DSS: m m	G m m	m mm m m m

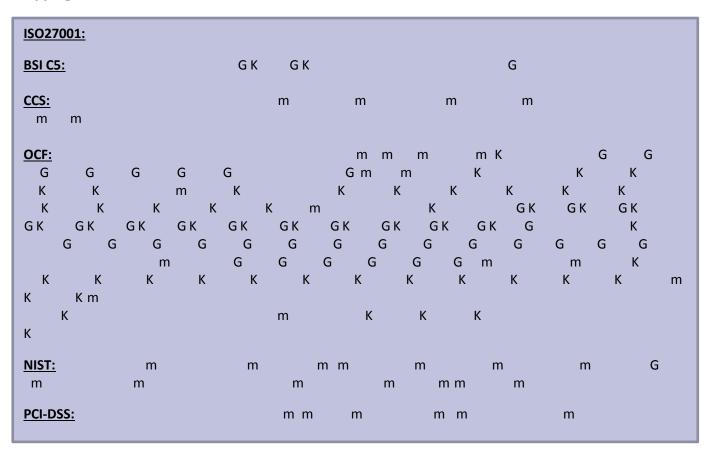


# 2.13 **SO 11** – Integrity of network components and information systems

### Description

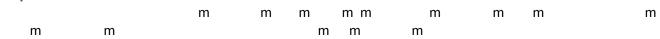
LEVEL	SECURITY MEASURES	EXAMPLES
	• K m m m m m m m m m m	• m m m m m m m m m m m m m m m m m m m
	m m • m	• m m m m m
	m m m m	• K m m m
	• m m m m m	• m m m
	• G m m m	• m m m m m m m m m m m m m m m
	• m m	o m m m m m m m m
	• m	o m m
	m m  • m m  m m	• mm m m m m m m m m m m m m m m m m m
	m m m m m m	• m m m mm • m m m
		• m m m m m m m m m m m m m m m m m m m
		m m m m
	• m mmmm	• m m m m m m m m
	m m m	• m mm m m m m m m m





### 2.14 **SO 12 – Operating procedures**

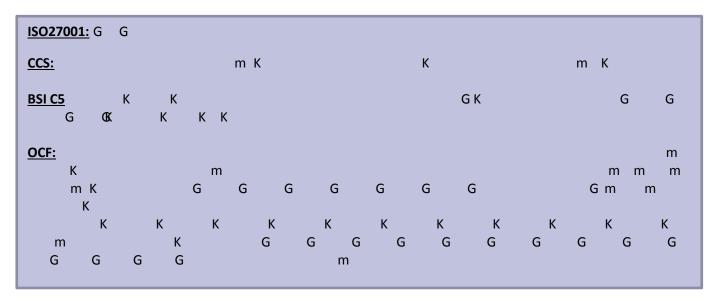
Description



LEVEL	SECURITY MEASURI	ES	EXAMPLES	EXAMPLES						
	m m m	m mm mm	m m	m m m m m	m	m	m			
	G m m m	mm mm	m m	m mm m m	m m m	m	m			



LEVEL	SECURITY MEASURES	EXAMPLES					
	m m mm mm m m m	m m m m m m					



## 2.15 **SO 13 – Change management**

### Description

m m m m
m m m m
m

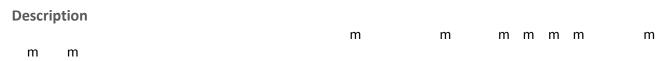
LEVEL	SECURITY MEASURES	EXAMPLES							
	• mm m	• m m m m							
	m m m	• m m m m							
	• G m m m								
	m								
	• G m m	• m m m m							
	m m	m m m m							
	m								



LEVEL	SECURITY MEASURES		EXA	MPLES				
		m mm	•	m	m	m		
	• m							
		m m						
	m m	m m						
				m			m	m
	m	m		m	m			
	m							

<u>ISO27001:</u> G	G												
CSA CCM:	K								m m	m	m		
<u>BSI C5:</u> G	G	G	G	G	G	G	G	G	i G			K	K
COBIT 5:	G	G	G										
CCS:	m	K			m K				K				
OCF: G	G	G	G	G	G	G			G m	m		K K	К
K K G	K G	K G	K G n	G	K G	K G	K G	G	K G	K G	m G	G	G
NIST: G	m	m		m n	n m								
PCI-DSS: m m			m m	m	m		m		m	m			K G

# 2.16 **SO 14 – Asset management**





LEVEL	SECURITY MEASURES	EXAMPLES
	• m m m m m m m m m m m m m m m m m m m	• m m m m o mm m
	• K m m m m m m	o m m o o m mmm m o m
	G m m m m m m m m	• m m m m m m m m m m m m m m m m m m m
	• m m	• m m m m • m
	• m m m	• m m m m m m m m m m m m m m m m m m m
	• m m m m m m m m m m m m	• m m m m m m



<u>ISO27001:</u> G G	G G	G G	
G G			
CSA CCM: G		m	
BSI C5: K K K COBIT 5: G G	K K K K K G G G G		
CCS: m K	m m m m K	K mmr	n
OCF: G G G	G G G	G m m K	
G G G G	G G G G	m G G G G G	
NIST: m	m m m	m m	
PCI-DSS:	m m	m m m	

# 2.17 **SO 15 – Security incident detection & Response**

Description

LEVEL	SECURITY MEASURES	EXAMPLES										
	• m m m m m	• m m m										
	• K m m	• m m m m										
		• G m m m m										
	• G m m m m	G m m G     K GK mm m     m m m m m     m mm m m m										



LEVEL	SECURITY MEASURES							EXAMPLES												
	•	G m m		m	m I	m m		•	m	m	m I		m m	m m	m I m	m		m m m	m G	m
								•			m m	r m						m m	m	
	•	G m	m m m m	m	m m m	m	m m	•	m m		m m	m r m m mm		m n m	า	m	m	m m m	m	m m
	•	m	m				m													



<u>ISO27001:</u> G G				
CSA CCM:			m m	
BSI C5:	CK CK	CK CK CK		
COBIT 5: G			V	
CCS:	m m	G	K	m m m
OCF: G G G m	G G G	m m G G G G	m m K G G G K	G G m m m
NIST: G PCI-DSS:	m K n	n m	m m m	mm m

# 2.18 **SO 16 – Security incident reporting**

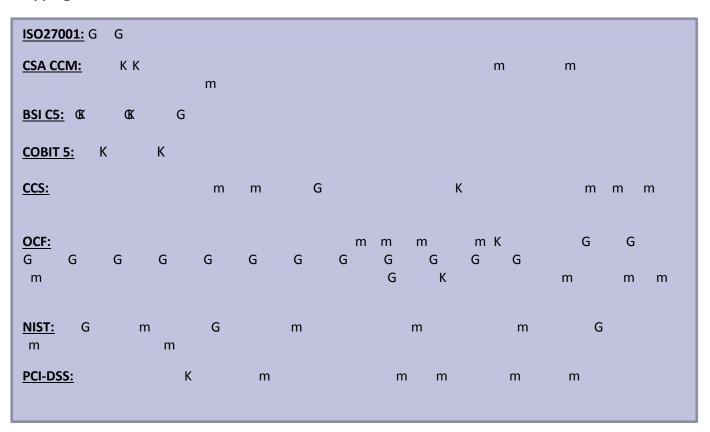
Description

 $\hspace{1cm} m \hspace{1cm} m \hspace{1cm} m \hspace{1cm} m \\$ 

LEVEL	SECURITY MEASURES						EXAMPLES								
	m		m	m	m m	•	m	m	m		m				
	m m	m m	m		m		0	m	m m	m	m m m	m	m m n	1	
							0	m			m	m		m	
							0		m	m m	m				
							0	m		m	m				
						•		m	m		m		r	n	
	G	m	m		m	•	m	1	m	m	n	n m			m
	m		m		m		m	1			m	m	m	m m	
							n	n m			m		m		



LEVEL	SECURITY MEASURES			EXA	AMPLES									
						m		m		m	m m		m	m
						m	m	m		m			m	
						m	m	m		m	m			
					•		m		m	m		m		
	•	m	m		•	m		m		m	m	m		
	m	m			•	m			m	m	m	m		
	•		m			m		m	m					
	m	m		m										
	n	n												



## 2.19 **SO 17 – Business continuity**



LEVEL	SECURITY MEAS	URES		EXAMPLES
	G m	m m m	m m m	• m m m m m m m
	• G • K m m	m m	m m m	• m m m m m m m m m m m m m m m m m m m
	• m • m m	m  m  m  m  m  m  m  m  m  m  m  m  m	m m m m	• m m m m m m m m m m m m m m m m m m m



<b>ISO27001:</b> G	G	
CSA CCM:	m m	m m
<b>BSI C5:</b> K	K K K K	
CCS:	G m K	
OCF: K K	m K K K K m	M K K K K K K
NIST: G	m G m m	m m G
PCI-DSS:	K m	m m m

## 2.20 **SO 18 – Disaster recovery capabilities**

Description

m m m m

Security measures within sophistication levels<sup>11</sup>

LEVEL	SECURITY MEASURES	EXAMPLES				
	m m m m m m	K m m m m m m				
	• G m m m m m m m m m m m m m m m m m m	m m m m m m m m m m m m m m m m m				



LEVEL	SECURITY MEASURES			EXAMPLES						
	• m	m m m m m	m	• m		m m m		m		
	•	m			m		m	m		
		m m		•				m		
		m			m m m m	l	m			
				•	m	m m	m			
				m		m	m			

<u>ISO27001:</u> G	G				
CSA CCM:	m		m n	n	m m
BSI C5: K	К				
COBIT 5:					
CCS:	m m	(	G m	K	
OCF:					m
K	m	K	K K	K K	K K
K	K K K	m	K		
<u>NIST:</u> G	m m				
PCI-DSS:	K m	1	m m	m	m

# 2.21 **SO 19 – Monitoring and logging**

Description

LEVEL	SECURITY M	SECURITY MEASURES				EXAMPLES						
	G	m m	m	m	m m	m	m	m	m		m	m



LEVEL	SECURITY MEASURES	EXAMPLES
	G m mm m m      mm m m m      mm m m m	<ul> <li>m</li> <li>m&lt;</li></ul>
	• mm m m m m m m m m m m m m m m m m m	• mm m m m m m m m m m m m m m m m m m

<u>ISO27001:</u> G G				
CSA CCM:	K G G	m	m G	m m
BSI C5:				
CCS:	m K			
OCF: G	G G G G	G G G	G G G	G G
<u>NIST:</u> K	m m m m			
PCI-DSS:	m G	m m m		

## 2.22 **SO 20 – System tests**

Description

m m m m m

m



LEVEL	SECURITY M	EASURES			EXA	MPLES				
	•	m m m m	m m	m	•	m		m	m	m m m
	• m	m m m	m m		•		m			
	• G m	m m m m	m		•	m m m	m	m	m m	m m
	• m	m m m m	m m		•	0 0	m m	m m	m	m m
					•	o m	m	m m		
	•	m m m	m	m	•	m m	m m m	m r	n m	m m
	• m	m m m m m	m m				m			
	•	m m m		m m						



# 2.23 **SO 21 – Security assessments**

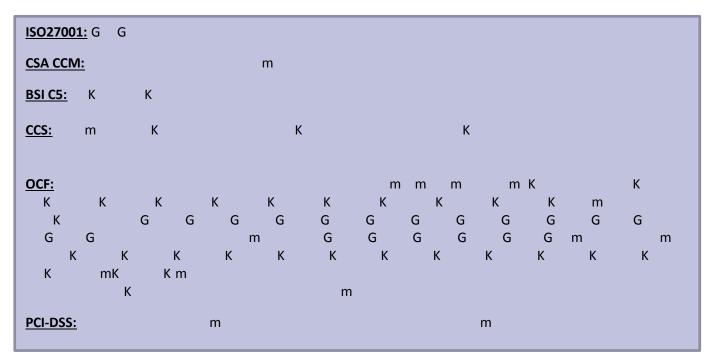
Description

 $\ \ \, m \quad \, \, m \quad \ \,$ 

LEVEL	SECURITY MEASURES	EXAMPLES				
	• m m	• m m • m m				
	• G m m m • m m m m m m m m m m m m	• m m m m m m m m m m m m m m m m m				



LEVEL	SECURITY MEASURES	EXAMPLES
	• m m m	• m m m
	111	• m m m m m
	• m m m	• m m m
	m m	m m m
	• Gm mm m m	• m m m m
	m m m m	
	m m	
	m m m	



### 2.24 **SO 22 – Compliance**



LEVEL	SECURITY MEASU	RES			EXA	MPLES				
	Km m m	m				m		m n	1	m m
	G m m	m	m m	m	•	m m	m m	m m		m m m m
					•	m m	m m m	m	m m	m m
							m			
	•	m m	m m	1	•	m o	m mm		m m m	
	• m	m mm			•		m m	m		
	• • m		m m m m	m m	•		m r m	n n	n m m	m

```
<u>ISO27001:</u> G G
CSA CCM:
         Κ
                                         m
BSI C5: K
            Κ
                  Κ
COBIT 5:
                                    Κ
                                                   Κ
               m K
         m
                             m
Κ
OCF:
                                  m
                  m K
                                   G
                                           G
                                                 G
                                                   G
     m m
                               G
                                       G
                                                           G
                                 K
                           Κ
                                       K
                                            Κ
                                                           K
   G m
         m
                 K
                                                     m
                                   Κ
                                                           Κ
 Κ
       K
             Κ
                   K
                         Κ
                               K
                                          K
                                                Κ
                                                      Κ
                                                                m
        Κ
                   GΚ
                        GΚ
                             G K
                                  GΚ
                                        GΚ
                                             G K
                                                  GΚ
                                                        G K
                                                             GΚ
              m
GK
     G K
         GΚ
                                             G
                                                      G
                                                           G
               GΚ
                   G
                                        G
                                                 G
                               K
    G
                           G
G
         G
              G
                  G
                       G
                               G
                                                        G
                                                             G
                                                                 G
                                                m
  G
      G
           G m
                       m
                             Κ
                                   Κ
                                        Κ
                                              Κ
                                                   K
                                                        Κ
                                                              K
            Κ
 Κ
       Κ
                  K
                       Κ
                             Κ
                                  mК
                                         K m
              G
                    Κ
                                m
                                       m m
                                 Κ
                                                        m
```



# 2.25 **SO 23 – Security of data at rest**

Description

 $\mathsf{m} \qquad \qquad \mathsf{m} \qquad \mathsf{m} \; \mathsf{m}$ 

Security measures within sophistication levels

LEVEL	SECURITY MEASURES	EXAMPLES
	• G m m m m m m	• m m m m m m
	m • m m	• m m m
	m m  • G m m m  m m m	• m m m m m
	m m m m m m m m	• m m m m m m m m m m m m m m m m m m m
	m m  • G m	
	m m	
	• G m m	
	• m m m m m	• m m m m m
	m m m	m m m m m m m m m m m m m m m m m m m
	• m m	• m m m m
	m m m	m m m m
	m m m m m m m	m m m m m m m m
	m m	m m m m m
	m m m	

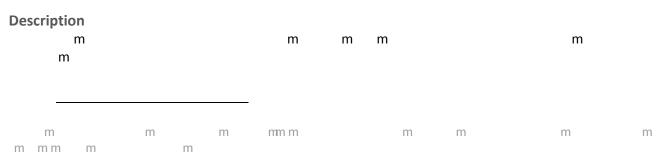


LEVEL	SECURITY MEASURES	EXAMPLES
	• m m m m	• m m m m m m m m m m m m m
	<ul> <li>m m m</li> <li>G m m</li> <li>m m</li> <li>m m</li> <li>m m</li> <li>m m</li> <li>m m</li> <li>m m</li> </ul>	<ul> <li>m m m m m m m</li> <li>m m m m m m</li> <li>m m m m m</li> <li>m m m m m</li> <li>m m</li> </ul>
	m m m	<ul> <li>m</li> <li>m&lt;</li></ul>



<u>ISO27001:</u> G G	G G			
G G	0 0			
	G G		G G	
CSA CCM: G G	G G G	G G		
BSI C5: K Œ G	К		G	к к
COBIT 5:	G G			
CCS: m m		m m	m	m
m	m	К	m	K
m m				
OCF: G G	G G	m G		
m m K	m			
m m m m K		G G G	G G G	
G m m K				
K K K		K m	K K m	K K
			GK GK GK	
GK G	K G	G G G	G G G	G G
G G G G	G	m	G G G	G G
K	m			
NIST:	G m m	m	m	m m
m m	m		m m m G	
m			m m	mm
PCI-DSS:	K m	m	m m r	n

# 2.26 **SO 24** –Interface security





LEVEL	SECURIT	Y MEASURES		EXAMPLES
	• m	m m m		• m m m m
	• K	m m	m	
	•	m	m	m • m
	•	m		• m m
	• m m m M K		m	m    m    m     m    m     m    m
	• m	m m m m m		<ul> <li>m m m m</li> <li>m m m m</li> <li>m m m m</li> <li>m m m m m</li> </ul>



CSA CO	<u>:M:</u> G	G	G	G		m	G							
BSI C5	<u>:</u> G		G				Œ		Œ	Œ	Œ	Œ	Œ	
CCS:		m	m			m	m							
OCF:	G	G	G	G		m (	â			K	K	K	K	
	m	K		K	K	K		K	K		K	K	K	
K	K	K	C m	1		K		G K	G K	(	G K	G K	G K	
G K	G K	G K	G K	G K	G K	G K	G K	G			K		G	G
G	G	G	G	G	G	G	G	G	G	G	G			
m		G	G	G	G G	G G	m		m					
							K						m	
PCI-DS	<u>S:</u>		m n	n	m		r	n		m		m		

# 2.27 SO 25 –Software security

Description

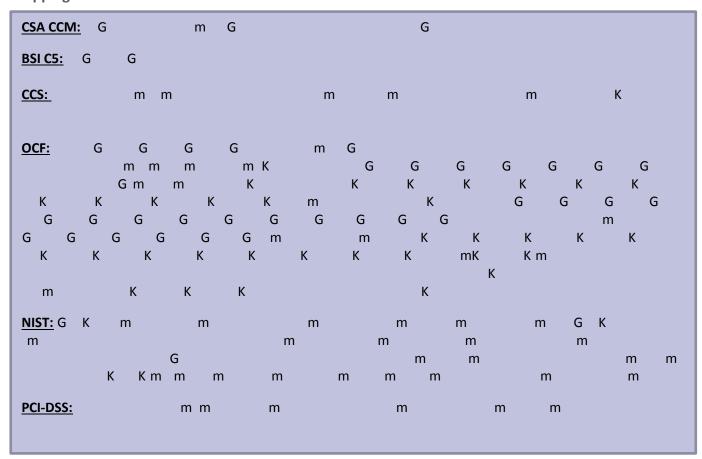
 $\mathsf{m} \qquad \qquad \mathsf{m} \qquad \qquad \mathsf{m}$ 

Security measures within sophistication levels<sup>16</sup>

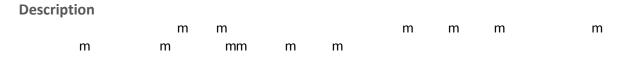
LEVEL	SECURITY ME	ASURES	EXA	XAMPLES						
		m	m		•	m		m	m	
					•	m		m		m
	• G m	m	m m		•	m m		m	m m m	
	• m m	m m m m m		m	•	m	m	m	m m m m	m



LEVEL	SECURITY MEASURES						EXA	EXAMPLES								
	• m	า	m	m	m m	m m		•		n	า	m	m m		m	m
	•		m	m m	m		m	•			m	m	m			
	e m	m	m m	m		m	m	•	m m		m m	m m	m 1		m	m m m
	•		m	n	11			•		m		m m m		m	m	m



### 2.28 **SO 26** – Interoperability and portability





#### Security measures within sophistication levels

LEVEL	SECURITY MEASURES	EXAMPLES					
	G m m m m m m m m m m m m m m m m	• m K K m m m m m m m m m m m					
	G mm m m m m m m m m	• m K K m m m m m m m m m m m m m m m m					
	• m m m m m m m m m	• m m m m m m m m m m m m m m m m m m m					

#### Mapping

## 2.29 **SO 27 – Customer Monitoring and log access**







LEVEL	SECURITY MEASURES	EXAMPLES					
	• m m m m	• m m m m m m					
	• G m m m m m						
	• G m m m m m m m m m m m m m m m m m m	• m m m m m m m m m m m m m m m m m m m					
	• mm m m m m m m m m m m m m m m m m m	• mm m m m m m m m m m m m m m m m m m					



# 3. Summary

m			m m	m m				m m m	m m
m		m	m	m i	m		m	m	m
m	m		m			m m			
m			m		m	m m		m	
m		m		m		m		m m	
		m m			m		m		m
	m		m	m m		m	m	m	
			m				m	m	
m	m		m G	m m		m m	m	m	
		G	m	m m		m			

SECURITY OBJECTIVES	CLOUD PROVID- ERS	ONLINE MARKET PLACES	ONLINE SEARCH ENGINES
Gm m m	✓	<b>✓</b>	✓
К	✓	✓	✓
m	✓	✓	✓
	✓	✓	✓
m	✓	✓	✓
m	✓	✓	✓
m	✓	✓	✓
m	✓	✓	✓
m m	✓	✓	✓
mmm m m	✓	<b>✓</b>	✓
G m m m m m	<b>✓</b>	✓	<b>✓</b>
m	✓	✓	✓
	<b>✓</b>	✓	✓
	<b>√</b>	✓	✓
m m	✓	✓	✓
m	✓	✓	✓
m	✓	✓	✓
m	✓	✓	✓
Km m m	✓	<b>✓</b>	✓
	✓	✓	✓



	✓	✓	✓
m	✓	✓	✓
m	✓	✓	✓
G	✓	✓	✓
m	✓	✓	✓
G m m	✓	✓	×
m Km m m	✓	×	×

m m m G m m m m G m

SECURITY OBJECTIVES	ISO27001	CSA CCM	BSI C5	COBIT 5	ccs	OCF	NIST	PCI-DSS	CES <sup>17</sup>
G m m m	•	•	•		•	•	•	•	
	•	•	•		•	•	•	•	
m	•	•	•		•	•	•	•	
m	•	•	•		•	•	•	•	
m	•	•	•		•	•	•	•	
m	•	•	•	•	•	•	•	•	
m	•	•	•		•	•	•	•	
m	•	•	•		•	•	•	•	
m m	•		•		•	•			
m m m m m m	•	•	•	•	•	•	•	•	•
G m m m m	•		•		•	•	•	•	•
m	•				•	•			•
	•	•	•	•	•	•	•	•	•
	•	•	•	•	•	•	•	•	•
m m	•	•	•	•	•	•	•	•	
m	•	•	•	•	•	•	•	•	
m	•	•	•		•	•	•	•	



SECURITY OBJECTIVES	ISO27001	CSA CCM	BSI C5	COBIT 5	ccs	OCF	NIST	PCI-DSS	CES <sup>17</sup>
m	•	•	•	•	•	•	•	•	
Kmm m	•	•	•		•	•	•	•	•
	•		•		•	•	•	•	•
	•	•	•		•	•		•	•
m	•	•	•		•	•			
m	•	•	•	•	•	•	•	•	•
G		•	•		•	•		•	•
m		•	•		•	•	•	•	
G m m		•	•		•	•			
m m m	•	•	•	•	•	•	•	•	•









m



