

## Threats, Vulnerabilities, and Security Controls in Cloud Computing

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This project is a comparison of Cloud Computing Security policies. We explored threats, vulnerabilities, and controls in cloud computing, to gain a deeper understanding of cloud storage, accessibility, security, and threats.

We examined security control models of three major cloud providers (Windows Azure, Google Drive, and Amazon Web Services S3).

Vulnerabilities																						
1	2	6	8	9	10	11	18	28	34	35	38	39	53									
x						x		x		x			x	x	x		x	x	x	x	x	TO1
x	x	x	x	x	x	x		x		x		x	x	x	x	x	x	x	x	x	x	TO2
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	TO3
AC	IA	AC	IR	SC	IA	SC	IA	SC	IA	SC	IA	SC	SA	SC	IR	SC	SA	AC	AC	SC	SC	SC
3	1	2	4	2	6	12	6	12	6	12	4	12	2	4	8	6	2	1	3	2	5	3
14	2			7	7	13	7	13	7	13	7	13		7				5	6	5	27	5
Security Controls																						

Script Kiddie  
Criminals  
Nation State

### CONTROLS CATEGORIZATION

- Access Control (AC)
- Awareness and Training (AT)
- Audit and Accountability (AU)
- Assessment and Authorization (CA)
- Configuration Management (CM)
- Contingency Planning (CP)
- Identification and Authentication (IA)
- Incident Response (IR)
- Maintenance (MA)
- Media Protection (MP)
- Physical and Environmental Protection (PE)
- Planning (PL)
- Personnel Security (PS)
- Risk Assessment (RA)
- System and Services Acquisition (SA)
- System and Communications Protection (SC)
- System and Information Integrity (SI)

### SELECTED VULNERABILITIES (SAAS)

- V1. AUTHENTICATION, AUTHORIZATION AND ACCOUNTING VULNERABILITIES
- V2. USER PROVISIONING VULNERABILITIES
- V6. LACK OF RESOURCE ISOLATION
- V8. COMMUNICATION ENCRYPTION VULNERABILITIES
- V9. LACK OF OR WEAK ENCRYPTION OF ARCHIVES AND DATA IN TRANSIT
- V10. IMPOSSIBILITY OF PROCESSING DATA IN ENCRYPTED FORM
- V11. POOR KEY MANAGEMENT PROCEDURES
- V18. POSSIBILITY THAT CO-RESIDENCE CHECKS WILL BE PERFORMED
- V28. NO POLICIES FOR RESOURCE CAPPING
- V34. UNCLEAR ROLES AND RESPONSIBILITIES
- V35. POOR ENFORCEMENT OF ROLE DEFINITIONS
- V38. MISCONFIGURATION
- V39. SYSTEM OR OS VULNERABILITIES
- V53. INADEQUATE OR MISCONFIGURED FILTERING RESOURCES