

# Coverage-based Heuristics for Selecting Assessment Items from Security Standards: a core set proposal

TABLE I. APPLICATION OF H-CovDM TO KS1

<i>AI</i>	<i>CovDM</i>
11.6.2	0,967
12.3.2	0,850
11.7.1	0,650
11.5.6	0,650
10.3.1	0,650

TABLE II. APPLICATION OF H-CovPP TO KS1

<i>AI</i>	<i>CovPP</i>
10.10.1	1,000
15.1.3	1,000
13.2.3	1,000
15.1.5	1,000
9.2.4	0,982

TABLE III. APPLICATION OF H-CovLOC TO KS1

<i>AI</i>	<i>CovDM</i>	<i>CovPP</i>	<i>CovLOC</i>
12.3.2	0,850	0,673	0,761
10.10.1	0,483	1,000	0,742
15.1.3	0,483	1,000	0,742
14.1.3	0,483	0,900	0,692
11.6.2	0,967	0,336	0,652

TABLE IV. SELECTED OR PRIORITIZED ADS CONSIDERING H-CovTOT

<i>AD</i>	<i>AI</i>	<i>KS</i>	<i>CovDM</i>	<i>CovPP</i>	<i>CovLOC</i>	<i>CovTOT</i>
3	12.3.2	1	0,850	0,673	0,761	0,718
3	10.10.1	1	0,483	1,000	0,742	
3	15.1.3	1	0,483	1,000	0,742	
3	14.1.3	1	0,483	0,900	0,692	
3	11.6.2	1	0,967	0,336	0,652	
-	-	-	-	-	-	-
2	10.10.1	1	0,483	1,000	0,742	0,680
2	15.1.3	1	0,483	1,000	0,742	
2	13.2.3	1	0,283	1,000	0,642	
2	15.1.5	1	0,283	1,000	0,642	
2	9.2.4	1	0,283	0,982	0,633	
-	-	-	-	-	-	-
1	12.3.2	1	0,850	0,673	0,761	0,528
1	11.6.2	1	0,967	0,336	0,652	
1	11.7.1	1	0,650	0,318	0,484	
1	11.5.6	1	0,650	0,173	0,411	
1	10.3.1	1	0,650	0,018	0,334	

TABLE V. SELECTED AIS CONSIDERING H-CombDM (DM4-DM6)

<i>ID</i>	<i>DM1</i>	<i>DM2</i>	<i>DM3</i>	<i>DM4</i>	<i>DM5</i>	<i>DM6</i>
10.10.1	1	0	1	1	0	1
11.3.2	1	0	1	1	0	1
11.4.7	1	0	1	1	0	1
11.5.1	1	0	1	1	0	1
11.5.2	1	0	1	1	0	1
11.5.3	1	0	1	1	0	1
11.5.5	1	0	1	1	0	1
11.6.2	1	1	1	1	0	1
12.3.2	1	0	1	1	1	1
12.5.5	0	0	1	1	1	1
14.1.3	1	0	1	1	0	1
14.1.4	1	0	1	1	0	1
14.1.5	1	0	1	1	0	1
15.1.3	1	0	1	1	0	1

TABLE VI. SELECTED AIS CONSIDERING H-CombPP (PP2-PP3)

<i>ID</i>	<i>PP1</i>	<i>PP2</i>	<i>PP3</i>	<i>PP4</i>	<i>PP5</i>	<i>PP6</i>	<i>PP7</i>	<i>PP8</i>	<i>PP9</i>	<i>PP10</i>	<i>PP11</i>
9.2.3	1	1	1	0	0	0	0	0	0	1	0
9.2.4	1	1	1	1	1	0	0	0	0	1	0
10.1.4	1	1	1	0	0	0	0	0	0	0	0
10.8.3	0	1	1	1	1	1	0	0	0	0	0
10.9.1	0	1	1	1	1	1	0	0	0	0	0
11.3.3	1	1	1	0	0	0	0	0	0	0	0
12.3.2	1	1	1	1	0	0	0	0	0	1	0
12.4.2	0	1	1	0	0	1	1	0	0	0	0
12.4.3	0	1	1	1	0	0	1	0	0	0	0
12.5.5	0	1	1	0	0	0	1	1	1	0	0
12.6.1	0	1	1	0	0	0	0	1	0	0	0
14.1.3	1	1	1	0	0	1	0	1	0	1	0
15.1.3	1	1	1	0	0	0	1	1	1	1	0
15.1.4	0	1	1	0	0	0	1	0	1	0	0
15.1.6	0	1	1	0	0	0	1	1	1	0	0
15.3.2	1	1	1	0	0	1	0	1	0	1	0

TABLE VII. SELECTED AIS CONSIDERING H-CombDM-PP (DM4-PP3)

<i>ID</i>	<i>DM1</i>	<i>DM2</i>	<i>DM3</i>	<i>DM4</i>	<i>DM5</i>	<i>DM6</i>	<i>PP1</i>	<i>PP2</i>	<i>PP3</i>	<i>PP4</i>	<i>PP5</i>	<i>PP6</i>	<i>PP7</i>	<i>PP8</i>	<i>PP9</i>	<i>PP10</i>	<i>PP11</i>
11.5.3	1	0	1	1	0	1	0	0	1	1	0	1	0	0	0	0	0
12.3.1	1	0	1	1	1	0	0	0	1	0	0	0	0	1	1	0	0
12.3.2	1	0	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0
12.4.2	1	0	1	1	1	0	0	1	1	0	0	1	1	0	0	0	0
12.5.5	0	0	1	1	1	1	0	1	1	0	0	0	1	1	1	0	0
14.1.3	1	0	1	1	0	1	1	1	1	0	0	1	0	1	0	1	0
15.1.3	1	0	1	1	0	1	1	1	1	0	0	0	1	1	1	1	0
15.1.6	1	0	1	1	1	0	0	1	1	0	0	0	1	1	1	0	0

TABLE VIII. SELECTED AIS CONSIDERING H-PARETO PERCENTAGE

<i>ID</i>	<i>CovLoc</i>	<i>%</i>
12.3.2	0,761	2,27%
10.10.1	0,742	4,49%
15.1.3	0,742	6,71%
14.1.3	0,692	8,77%
11.6.2	0,652	10,72%
13.2.3	0,642	12,64%
15.1.5	0,642	14,55%
9.2.4	0,633	16,44%
15.3.2	0,592	18,21%
10.4.2	0,589	19,97%
11.4.5	0,551	21,62%
10.4.1	0,542	23,24%
12.2.2	0,514	24,77%
12.5.5	0,511	26,30%
15.1.6	0,503	27,80%
12.4.3	0,488	29,26%
14.1.5	0,487	30,71%
11.7.1	0,484	32,16%
10.9.2	0,478	33,59%
10.7.3	0,464	34,97%
15.2.1	0,460	36,34%
10.6.1	0,451	37,69%
8.1.3	0,444	39,02%
10.8.3	0,437	40,32%

TABLE IX. SELECTED AIS CONSIDERING H-PARETO FRONTIER

<i>ID</i>	<i>CovDM</i>	<i>CovPP</i>
10.10.1	0,483	1,000
15.1.3	0,483	1,000
14.1.3	0,483	0,900
10.4.2	0,433	0,745
12.3.2	0,850	0,673
12.5.5	0,450	0,573
15.1.6	0,433	0,573
10.4.1	0,567	0,518
14.1.5	0,483	0,491