

Group Project Part 2 – Determining Information Assets

TABLE 1 - LISTING OF INFORMATION ASSETS INVENTORY TABLE

Table 1. Identification of Information Assets

Asset	Component	Data Owner	Type of Sensitive Data	RTO	RPO
1) Server I: Human Resource Information Systems (HRIS) and HRIS DB	Application, Server, External Storage, SaaS	COO	PHI, PII, CC	3	3
2) Payroll (within HRIS)	Application, Server, External Storage, SaaS	COO	PII, PCI	2	2
3) Server A: Active Directory/Primary DNS	Application, Desktop, Server, External Storage, SaaS	CIO/IT Director	PII, CC	0	0
4) Server B: SQL Server	Server, External Storage, SaaS	CIO/Database Admin	PII, CC	1	1
5) Server C: Exchange Email Server & DB	Application, Server, External Storage, SaaS	CIO/IT Director	PII, CC	2	3
6) Server D: Accounting Software & Accounting SQL DB	Application, Server, External Storage, SaaS	CFO	PCI, CC	3	3
7) Server E: Operation Management Software and Operation Management SQL DB	Application, Server, External Storage, SaaS	COO	PII, CC	2	2
8) Server F: ERP Software and ERP SQL DB	Application, Server, External Storage, SaaS	COO	PII, CC	3	3
9) Server G: Office 365 Server and Office DB	Applicaiton, Server, SaaS	CIO/IT Director	PII, CC	4	3
10) Server H: Internet Information Server #1 (Intranet)	Application, Server, External Storage, SaaS	CIO/IT Director	PII, CC	4	4
11) Server J: Internet Information Server #2 (Web Filtering and Proxy)	Application, Server, External Storage, SaaS	CIO/IT Director	CC	4	5
12) Server K: Support IT and IT DB	Application, Server, External Storage, SaaS	CIO/IT Manager	CC	5	4
13) Server L: Marketing Software and Marketing DB	Application, Server, External Storage, SaaS	Marketing Director	PII, CC	5	5
14) Server M: Financial Software and Financial DB	Application, Server, External Storage, SaaS	CFO	PCI, PII, CC	4	3
15) Network Attached Storage (NAS) #1	External Storage, Server, SaaS	CIO/IT Director	PII, ePHI, CC	3	3

Asset	Component	Data Owner	Type of Sensitive Data	RTO	RPO
16) Network Attached Storage (NAS) #2	External Storage, Server, SaaS	CIO/IT Director	PII, ePHI, CC	4	4
17) SAN #1 (Weekly Backup for Client PCs and Office Files)	External Storage	CIO/IT Director	CC	5	5
18) SAN #2 (Daily Backup for All Data and Databases)	External Storage	CIO/IT Director	PII, ePHI, CC	3	3
19) Electronic Health Record (EHR) System	Application, Desktop, Server, External Storage, SaaS	Chief Medical Officer (CMO)	PII, ePHI	0	1
20) Cloud-based Backup Service (iDrive)	SaaS, External Storage	CIO/IT Director	PII, ePHI, CC	4	3

TABLE 2 – WEIGHTED RANKING OF INFORMATION ASSETS

Criteria ➔	Compliance regulations	Confidentiality	Incident likelihood & Impact	Data Volume & Frequency	Patient Safety	Weighted Total	Importance (0-5; Not Important to Critically Important)
Criteria Weight ➔	0.2	.1	.25	.15	.3	0-5.0	
↓Asset Name							
1. Electronic Health Record (EHR) System	5	5	5	5	5	5	5-Critically Important
2. Server J: Internet Information Server #2 (Web Filtering and Proxy)	5	5	5	5	5	5	5-Critically Important
3. Server G: Office 365 Server and Office DB	4	4	4	3	5	4.15	4-Very Important

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4. Server H: Internet Information Server #1 (Intranet)	4	4	3	4	4	3.75	4-Very Important
5. Server B: SQL Server	4	4	4	4	3	3.7	4-Very Important
6. Server F: ERP Software and ERP SQL DB	4	4	4	4	3	3.7	4-Very Important
7. SAN #2 (Daily Backup for All Data and Databases)	4	4	3	5	3	3.6	4-Very Important
8. Server A: Active Directory/Primary DNS	3	2	5	2	3	3.25	4-Very Important
9. HRIS	3	3	4	2	3	3.1	4 – Very Important
10. Server C: Exchange Email Server & DB	3	3	4	3	2	2.95	3-Important
11. Server E: Operation Management Software and Operation Management SQL DB	3	2	3	3	3	2.9	3-Important
12. Server M: Financial Software and Financial DB	4	3	3	4	1	2.75	3-Important
13. Server D: Accounting Software & Accounting SQL DB	4	3	3	3	1	2.6	3-Important
14. Cloud-based Backup Service (iDrive)	3	3	2	4	2	2.6	3-Important
15. Payroll (within HRIS)	2	3	2	1	4	2.55	3- Important

16. Server K: Support IT and IT DB	3	2	2	3	2	2.35	3-Important
17. Network Attached Storage (NAS) #1	2	3	2	3	2	2.25	3-Important
18. Server L: Marketing Software and Marketing DB	2	2	2	3	1	1.85	3-Important
19. Network Attached Storage (NAS) #2	2	2	2	2	1	1.7	2-Slightly Important
20. SAN #1 (Weekly Backup for Client PCs and Office Files)	2	2	2	2	1	1.7	2-Slightly Important

1. Compliance Regulations - This criterion is described as how close an asset must adhere to legal, industry, and regulatory standards such as HIPAA, PCI DSS, or SOX. This was selected because in healthcare regulatory compliance is crucial to avoid legal issues or penalties, protect patient rights, and to maintain credibility. The score of 0.2 was chosen due to the fact that compliance is essential but not the sole factor of importance.

2. Confidentiality – This criterion is described as the sensitivity of the data stored or how the data is processed, this includes PHI (Protected Health Information), PII (Personally Identifiable Information), and financial data. This was selected because protecting patients and organizational data is the cornerstone of the health care IT world. Any sort of data breach can lead to damaged reputations of the organization, legal consequences, and loss of trust of investors and patients. The score .1 was chosen because while it is vital, it overlaps with compliance and complements each other.

3. Incident Likelihood & Impact – This criterion is described as the probability of system failures and the potential consequences that may occur. This was selected because assets with high exposure pose a greater risk of compromising. The weight of .25 was chosen to show the high relevance of risk management in healthcare IT, especially with the current cases of cyber threats.

4. Data Volume & Frequency – This criterion describes how much data volume is handled and how frequently the data is accessed and updated. This was selected as high volume systems are more often complex and difficult to recover. The score 0.15 was given to this criterion to reflect the moderate influence on operational importance, mainly in backup and storage systems.

5. Patient Safety – This criterion is described to assess the degree on how the asset directly or indirectly affects patient care, health outcomes, or clinical decisions. This was selected because in healthcare, patient safety is the forefront of everything. Systems that prioritize treatment, access to care, and impact diagnosis. The score of .3 was given to this criterion because it reflects top-tier importance in healthcare IT assets.

TABLE 3 – RISK ANALYSIS AND DETERMINATION FOR THE SELECTED INFORMATION ASSETS

Table 3. Risk Analysis and Determination

Information Asset	Importance	Risk Likelihood	Risk Impact	Uncertainty	Risk Rating Factor
Server I: Human Resource Information Systems (HRIS) and HRIS DB	3	3	3	0.75	20.25
Payroll (within HRIS)	2	3	4	0.85	20.4
Server A: Active Directory/Primary DNS	3	4	4	0.9	43.2
Server B: SQL Server	4	4	5	0.9	72
Server C: Exchange Email Server & DB	3	3	3	0.75	20.25
Server D: Accounting Software & Accounting SQL DB	4	3	3	0.75	27
Server E: Operation Management Software and Operation Management SQL DB	3	3	3	0.85	22.95
Server F: ERP Software and ERP SQL DB	4	3	4	0.8	38.4
Server G: Office 365 Server and Office DB	4	2	3	0.7	16.8
Server H: Internet Information Server #1 (Intranet)	4	2	2	0.8	12.8
Server J: Internet Information Server #2 (Web Filtering and Proxy)	5	3	4	0.85	51
Server K: Support IT and IT DB	3	2	3	0.8	14.4
Server L: Marketing Software and Marketing DB	2	3	2	0.75	9
Server M: Financial Software and Financial DB	3	3	4	0.9	32.4
Network Attached Storage (NAS) #1	2	3	3	0.75	13.5
Network Attached Storage (NAS) #2	2	3	3	0.75	13.5
SAN #1 (Weekly Backup for Client PCs and Office Files)	2	2	3	0.75	9
SAN #2 (Daily Backup for All Data and Databases)	4	3	4	0.9	43.2
Electronic Health Record (EHR) System	5	4	5	0.99	99
Cloud-based Backup Service (iDrive)	3	3	3	0.75	20.25