9

Contents

About the Author xvAcknowledgment xvii About the Companion Website xix Introduction xxi

ı	Data Security Laws and Enforcement Actions 1
1.1	FTC Data Security 2
1.1.1	Overview of Section 5 of the FTC Act 2
1.1.2	Wyndham: Does the FTC have Authority to Regulate Data Security
	under Section 5 of the FTC Act? 5
1.1.3	LabMD: What Constitutes "Unfair" or "Deceptive" Data Security?
1.1.4	FTC June 2015 Guidance on Data Security 11
1.1.5	FTC Protecting Personal Information Guide 14
1.1.6	Lessons from FTC Cybersecurity Complaints 15
1.1.6.1	Failure to Secure Highly Sensitive Information 16
1.1.6.1.1	Use Industry-Standard Encryption for Sensitive Data 16
1.1.6.1.2	Routine Audits and Penetration Testing are Expected 17
1.1.6.1.3	Health-Related Data Requires Especially Strong Safeguards 18
1.1.6.1.4	Data Security Protection Extends to Paper Documents 19
1.1.6.1.5	Business-to-Business Providers also are Accountable to the FTC
	For Security of Sensitive Data 20
1.1.6.1.6	Companies are Responsible for the Data Security Practices of Their
	Contractors 22
1.1.6.1.7	Make Sure that Every Employee Receives Regular Data Security
	Training for Processing Sensitive Data 23
1.1.6.1.8	Privacy Matters, Even in Data Security 23
1.1.6.1.9	Limit the Sensitive Information Provided to Third Parties 24
1.1.6.2	Failure to Secure Payment Card Information 24
1.1.6.2.1	Adhere to Security Claims about Payment Card Data 24
1.1.6.2.2	Always Encrypt Payment Card Data 25
1.1.6.2.3	Payment Card Data Should be Encrypted Both in Storage and at
	Rest 26

/iii	Contents
------	----------

1.1.6.2.4	In-Store Purchases Pose Significant Cybersecurity Risks 26
	Minimize Duration of Storage of Payment Card Data 28
	Monitor Systems and Networks for Unauthorized Software 29
	Apps Should Never Override Default App Store Security
	Settings 29
1.1.6.3	Failure to Adhere to Security Claims 30
	Companies Must Address Commonly Known Security
	Vulnerabilities 30
1.1.6.3.2	Ensure that Security Controls are Sufficient to Abide by Promises
	about Security and Privacy 31
1.1.6.3.3	Omissions about Key Security Flaws can also be Misleading 33
	Companies Must Abide by Promises for Security-Related Consent
	Choices 33
1.1.6.3.5	Companies that Promise Security Must Ensure Adequate
	Authentication Procedures 34
1.1.6.3.6	Adhere to Promises about Encryption 35
1.2	State Data Breach Notification Laws 36
1.2.1	When Consumer Notifications are Required 37
1.2.1.1	Definition of Personal Information 37
1.2.1.2	Encrypted Data 38
1.2.1.3	Risk of Harm 39
1.2.1.4	Safe Harbors and Exceptions to Notice Requirement 39
1.2.2	Notice to Individuals 40
1.2.2.1	Timing of Notice 40
1.2.2.2	Form of Notice 40
1.2.2.3	Content of Notice 41
1.2.3	Notice to Regulators and Consumer Reporting Agencies 41
1.2.4	Penalties for Violating State Breach Notification Laws 42
1.3	State Data Security Laws 42
1.3.1	Oregon 43
1.3.2	Rhode Island 45
1.3.3	Nevada 45
1.3.4	Massachusetts 46
1.4	State Data Disposal Laws 49
2	Cubanga quity litimation 51
2 2.1	Cybersecurity Litigation 51
	Article III Standing 52 Applicable Supreme Court Pulings on Standing 52
2.1.1 2.1.2	Applicable Supreme Court Rulings on Standing 53
	Lower Court Rulings on Standing in Data Breach Cases 57
2.1.2.1	Injury-in-Fact 57 Prood View of Injury in Fact 57
	Broad View of Injury-in-Fact 57
	Narrow View of Injury-in-Fact 60
2.1.2.2	Fairly Traceable 62
2.1.2.3	Redressability 63

2.2	Common Causes of Action Arising from Data Breaches 64
2.2.1	Negligence 64
2.2.1.1	Legal Duty and Breach of Duty 65
2.2.1.2	Cognizable Injury 67
2.2.1.3	Causation 69
2.2.2	Negligent Misrepresentation or Omission 70
2.2.3	Breach of Contract 72
2.2.4	Breach of Implied Warranty 76
2.2.5	Invasion of Privacy by Publication of Private Facts 80
2.2.6	Unjust Enrichment 81
2.2.7	State Consumer Protection Laws 82
2.3	Class Action Certification in Data Breach Litigation 84
2.4	Insurance Coverage for Cybersecurity Incidents 90
2.5	Protecting Cybersecurity Work Product and Communications
	from Discovery 94
2.5.1	Attorney–Client Privilege 96
2.5.2	Work Product Doctrine 98
2.5.3	Non-Testifying Expert Privilege 101
2.5.4	Applying the Three Privileges to Cybersecurity: Genesco v. Visa 102
3	Cybersecurity Requirements for Specific Industries 105
3.1	Financial Institutions: Gramm-Leach-Bliley Act Safeguards
	Rule 106
3.1.1	Interagency Guidelines 106
3.1.2	Securities and Exchange Commission Regulation S-P 109
3.1.3	FTC Safeguards Rule 110
3.2	Financial Institutions and Creditors: Red Flag Rule 112
3.2.1	Financial Institutions or Creditors 116
3.2.2	Covered Accounts 116
3.2.3	Requirements for a Red Flag Identity Theft Prevention
	Program 117
3.3	Companies that use Payment and Debit Cards: Payment Card
	Industry Data Security Standard (PCI DSS) 118
3.4	Health Providers: Health Insurance Portability and Accountability
	Act (HIPAA) Security Rule 121
3.5	Electric Utilities: Federal Energy Regulatory Commission Critical
	Infrastructure Protection Reliability Standards 127
3.5.1	CIP-003-6: Cybersecurity – Security Management Controls 127
3.5.2	CIP-004-6: Personnel and Training 128
3.5.3	CIP-006-6: Physical Security of Cyber Systems 128
3.5.4	CIP-007-6: Systems Security Management 128
3.5.5	CIP-009-6: Recovery Plans for Cyber Systems 129
3.5.6	CIP-010-2: Configuration Change Management and Vulnerability
	Assessments 129

х	Contents	
	3.5.7	CIP-011-2: Information Protection 130
	3.6	Nuclear Regulatory Commission Cybersecurity Regulations 130
	4	Cybersecurity and Corporate Governance 133
	4.1	Securities and Exchange Commission Cybersecurity Expectations
		for Publicly Traded Companies 134
	4.1.1	10-K Disclosures: Risk Factors 135
	4.1.2	10-K Disclosures: Management's Discussion and Analysis
	4.1.0	of Financial Condition and Results of Operations (MD&A) 137
	4.1.3	10-K Disclosures: Description of Business 137
	4.1.4	10-K Disclosures: Legal Proceedings 138
	4.1.5	10-K Disclosures: Examples 138
	4.1.5.1	Wal-Mart 138
	4.1.5.2	Berkshire Hathaway 143
	4.1.5.3	Target Corp 144
	4.1.6	Disclosing Data Breaches to Investors 147
	4.2	Fiduciary Duty to Shareholders and Derivative Lawsuits Arising
	4.0	from Data Breaches 150
	4.3	Committee on Foreign Investment in the United States
	4.4	and Cybersecurity 152
	4.4	Export Controls and the Wassenaar Arrangement 154
	5	Anti-Hacking Laws 159
	5 5.1	Anti-Hacking Laws 159 Computer Fraud and Abuse Act 160
	5.1	Computer Fraud and Abuse Act 160
	5.1 5.1.1	Computer Fraud and Abuse Act 160 Origins of the CFAA 160
	5.1 5.1.1	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized
	5.1 5.1.1 5.1.2	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163
	5.1 5.1.1 5.1.2	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without
	5.1 5.1.1 5.1.2 5.1.2.1	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167
	5.1 5.1.1 5.1.2 5.1.2.1 5.1.2.2 5.1.2.3	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169
	5.1 5.1.1 5.1.2 5.1.2.1 5.1.2.2	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170
	5.1 5.1.1 5.1.2 5.1.2.1 5.1.2.2 5.1.2.3	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172
	5.1 5.1.1 5.1.2.1 5.1.2.2 5.1.2.2 5.1.2.3 5.1.3 5.1.3.1 5.1.3.2	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172 CFAA Section (a)(2): Hacking to Obtain Information 172
	5.1 5.1.1 5.1.2 5.1.2.1 5.1.2.2 5.1.2.3 5.1.3 5.1.3.1	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172 CFAA Section (a)(2): Hacking to Obtain Information 172 CFAA Section (a)(3): Hacking a Federal Government
	5.1 5.1.1 5.1.2.1 5.1.2.2 5.1.2.2 5.1.2.3 5.1.3.1 5.1.3.2 5.1.3.3	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172 CFAA Section (a)(2): Hacking to Obtain Information 172 CFAA Section (a)(3): Hacking a Federal Government Computer 176
	5.1 5.1.1 5.1.2.1 5.1.2.2 5.1.2.2 5.1.2.3 5.1.3.1 5.1.3.2 5.1.3.3 5.1.3.4	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172 CFAA Section (a)(2): Hacking to Obtain Information 172 CFAA Section (a)(3): Hacking a Federal Government Computer 176 CFAA Section (a)(4): Hacking to Commit Fraud 178
	5.1 5.1.2 5.1.2.1 5.1.2.2 5.1.2.2 5.1.2.3 5.1.3.1 5.1.3.2 5.1.3.3 5.1.3.4 5.1.3.5	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172 CFAA Section (a)(2): Hacking to Obtain Information 172 CFAA Section (a)(3): Hacking a Federal Government Computer 176 CFAA Section (a)(4): Hacking to Commit Fraud 178 CFAA Section (a)(5): Hacking to Damage a Computer 181
	5.1 5.1.2 5.1.2.1 5.1.2.2 5.1.2.2 5.1.2.3 5.1.3.1 5.1.3.2 5.1.3.3 5.1.3.4 5.1.3.5	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172 CFAA Section (a)(2): Hacking to Obtain Information 172 CFAA Section (a)(3): Hacking a Federal Government Computer 176 CFAA Section (a)(4): Hacking to Commit Fraud 178 CFAA Section (a)(5): Hacking to Damage a Computer 181 CFAA Section (a)(5)(A): Knowing Transmission that Intentionally
	5.1 5.1.1 5.1.2.1 5.1.2.2 5.1.2.3 5.1.3.3 5.1.3.1 5.1.3.2 5.1.3.3 5.1.3.4 5.1.3.5 5.1.3.5.1	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172 CFAA Section (a)(2): Hacking to Obtain Information 172 CFAA Section (a)(3): Hacking a Federal Government Computer 176 CFAA Section (a)(4): Hacking to Commit Fraud 178 CFAA Section (a)(5): Hacking to Damage a Computer 181 CFAA Section (a)(5)(A): Knowing Transmission that Intentionally Damages a Computer Without Authorization 181
	5.1 5.1.1 5.1.2.1 5.1.2.2 5.1.2.3 5.1.3.3 5.1.3.1 5.1.3.2 5.1.3.3 5.1.3.4 5.1.3.5 5.1.3.5.1	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172 CFAA Section (a)(2): Hacking to Obtain Information 172 CFAA Section (a)(3): Hacking a Federal Government Computer 176 CFAA Section (a)(4): Hacking to Commit Fraud 178 CFAA Section (a)(5): Hacking to Damage a Computer 181 CFAA Section (a)(5)(A): Knowing Transmission that Intentionally Damages a Computer Without Authorization 181 CFAA Section (a)(5)(B): Intentional Access Without Authorization
	5.1 5.1.1 5.1.2.1 5.1.2.2 5.1.2.3 5.1.3.3 5.1.3.1 5.1.3.2 5.1.3.3 5.1.3.4 5.1.3.5 5.1.3.5.1	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172 CFAA Section (a)(2): Hacking to Obtain Information 172 CFAA Section (a)(3): Hacking a Federal Government Computer 176 CFAA Section (a)(4): Hacking to Commit Fraud 178 CFAA Section (a)(5): Hacking to Damage a Computer 181 CFAA Section (a)(5)(A): Knowing Transmission that Intentionally Damages a Computer Without Authorization 181 CFAA Section (a)(5)(B): Intentional Access Without Authorization that Recklessly Causes Damage 184
	5.1 5.1.1 5.1.2.1 5.1.2.2 5.1.2.3 5.1.3.3 5.1.3.1 5.1.3.2 5.1.3.3 5.1.3.4 5.1.3.5 5.1.3.5.1	Computer Fraud and Abuse Act 160 Origins of the CFAA 160 Access without Authorization and Exceeding Authorized Access 161 Narrow View of "Exceeds Authorized Access" and "Without Authorization" 163 Broader View of "Exceeds Authorized Access" and "Without Authorization" 167 Attempts to Find a Middle Ground 169 The Seven Sections of the CFAA 170 CFAA Section (a)(1): Hacking to Commit Espionage 172 CFAA Section (a)(2): Hacking to Obtain Information 172 CFAA Section (a)(3): Hacking a Federal Government Computer 176 CFAA Section (a)(4): Hacking to Commit Fraud 178 CFAA Section (a)(5): Hacking to Damage a Computer 181 CFAA Section (a)(5)(A): Knowing Transmission that Intentionally Damages a Computer Without Authorization 181 CFAA Section (a)(5)(B): Intentional Access Without Authorization

5.1.3.5.4	CFAA Section (a)(5): Requirements for Felony and Misdemeanor Cases 186
E 1 2 6	Cases 186 CFAA Section (a)(6): Trafficking in Passwords 188
5.1.3.6	
5.1.3.7	CFAA Section (a)(7): Threatening to Damage or Obtain Information
T 1 4	from a Computer 190
5.1.4	Civil Actions under the CFAA 193
5.1.5	Criticisms of the CFAA 195
5.2	State Computer Hacking Laws 198
5.3	Section 1201 of the Digital Millennium Copyright Act 201
5.3.1	Origins of Section 1201 of the DMCA 202
5.3.2	Three Key Provisions of Section 1201 of the DMCA 203
5.3.2.1	DMCA Section 1201(a)(1) 203
5.3.2.2	DMCA Section 1201(a)(2) 208
5.3.2.2.1	Narrow Interpretation of Section (a)(2): Chamberlain Group
	v. Skylink Technologies 209
5.3.2.2.2	Broad Interpretation of Section (a)(2): MDY Industries,
	LLC v. Blizzard Entertainment, Inc. 211
5.3.2.3	DMCA Section 1201(b)(1) 215
5.3.3	Section 1201 Penalties 217
5.3.4	Section 1201 Exemptions 218
5.3.5	The First Amendment and DMCA Section 1201 224
5.4	Economic Espionage Act 227
5.4.1	Origins of the Economic Espionage Act 228
5.4.2	Criminal Prohibitions on Economic Espionage and Theft of Trade
	Secrets 229
5.4.2.1	Definition of "Trade Secret" 230
5.4.2.2	"Knowing" Violations of the Economic Espionage Act 234
5.4.2.3	Purpose and Intent Required under Section 1831: Economic
	Espionage 234
5.4.2.4	Purpose and Intent Required under Section 1832: Theft of Trade
	Secrets 236
5.4.3	Civil Actions for Trade Secret Misappropriation: The Defend Trade
	Secrets Act of 2016 238
5.4.3.1	Definition of "Misappropriation" 239
5.4.3.2	Civil Seizures 240
5.4.3.3	Injunctions 241
5.4.3.4	Damages 241
5.4.3.5	Statute of Limitations 242
6	Public–Private Cybersecurity Partnerships 243
6.1	U.S. Government's Civilian Cybersecurity Organization 244
6.2	Department of Homeland Security Information Sharing under
	the Cybersecurity Act of 2015 245
6.3	Energy Department's Cyber-Threat Information Sharing 249

xii	Contents	
	6.4	Critical Infrastructure Executive Order and the National Institute of Standards and Technology's Cybersecurity Framework 250
	6.5	U.S. Military Involvement in Cybersecurity and the Posse Comitatus Act 256
	7	Surveillance and Cyber 259
	7.1	Fourth Amendment 260
	7.1.1	Was the Search or Seizure Conducted by a Government Entity or Government Agent? <i>261</i>
	7.1.2	Did the Search or Seizure Intrude Upon an Individual's Privacy Interests? 265
	7.1.3	Did the Government have a Warrant? 269
	7.1.4	If the Government Did Not Have a Warrant, Did an Exception to the Warrant Requirement Apply? 271
	7.1.5	Was the Search or Seizure Reasonable under the Totality of the Circumstances? 273
	7.2	Electronic Communications Privacy Act 275
	7.2.1	Stored Communications Act 276
	7.2.1.1	Section 2701: Third-Party Hacking of Stored Communications 278
	7.2.1.2	Section 2702: Restrictions on Service Providers' Ability to Disclose Stored Communications and Records to the Government and Private Parties 279
	7.2.1.2.1	The Cybersecurity Act of 2015: Allowing Service Providers to Disclose Cybersecurity Threats to the Government 282
	7.2.1.3	Section 2703: Government's Ability to Force Service Providers to Turn Over Stored Communications and Customer Records 284
	7.2.2	Wiretap Act 286
	7.2.3	Pen Register Act 290
	7.2.4	National Security Letters 291
	7.3	Communications Assistance for Law Enforcement Act (CALEA) 293
	7.4	Encryption and the All Writs Act 294
	8	Cybersecurity and Federal Government Contractors 299
	8.1	Federal Information Security Management Act 300
	8.2	NIST Information Security Controls for Government Agencies and Contractors 301
	8.3	Classified Information Cybersecurity 306
	8.4	Covered Defense Information and Controlled Unclassified Information 309

9	Privacy Laws 317
9.1	Section 5 of the FTC Act and Privacy 318
9.2	Health Insurance Portability and Accountability Act 324
9.3	Gramm-Leach-Bliley Act and California Financial Information
	Privacy Act 326
9.4	CAN-SPAM Act 327
9.5	Video Privacy Protection Act 328
9.6	Children's Online Privacy Protection Act 330
9.7	California Online Privacy Laws 332
9.7.1	California Online Privacy Protection Act (CalOPPA) 332
9.7.2	California Shine the Light Law 333
9.7.3	California Minor "Eraser Law" 335
9.8	Illinois Biometric Information Privacy Act 337
10	International Cybersecurity Law 339
10.1	European Union 340
10.2	Canada 346
10.3	China 350
10.4	Mexico 353
10.5	Japan 356
	Appendix A: Text of Section 5 of the FTC Act 361
	Appendix B: Summary of State Data Breach Notification Laws 369
	Appendix C: Text of Section 1201 of the Digital Millennium Copyright Act 413
	Appendix D: Text of the Computer Fraud and Abuse Act 425
	Appendix E: Text of the Electronic Communications Privacy Act 433
	Index 485