knowledge17

WORK at LIGHTSPEED™

Enhancing Cloud Security with Edge Encryption™

MIKE ADLER
SR. PRODUCT MANAGER
ServiceNow®

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Agenda

- Data Protection Issues, Security and Compliance
- ServiceNow Edge Encryption Overview
- Start Protecting Sensitive Data Now
- Inside ServiceNow Edge Encryption
- Edge Encryption Roadmap
- Takeaways



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Speaker Introduction



NAME: Mike Adler

TITLE: Sr. Product Manager

FUNCTION: Platform Security

COMPANY: ServiceNow, Inc.

EXPERIENCE: 13 years Security Development, 8 years Product Management

EXPERTISE: Cloud Security, Product Incubation and Enablement, Customer Presentations

ACHIEVEMENTS: Launched ServiceNow®'s first on-premises cloud encryption product, Trained ServiceNow partners and professional services across 4 continents, Drove new encryption features across the ServiceNow platform

CURRENT PROJECTS: Cloud Security Products, Multi-Application Solutions, Customer Success, Sales Pipeline

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Data Protection Issues

"Distrust and caution are the parents of security.”

Benjamin Franklin

One of the Founding Fathers of the United States of America

Poor Richard’s Almanack, 1733

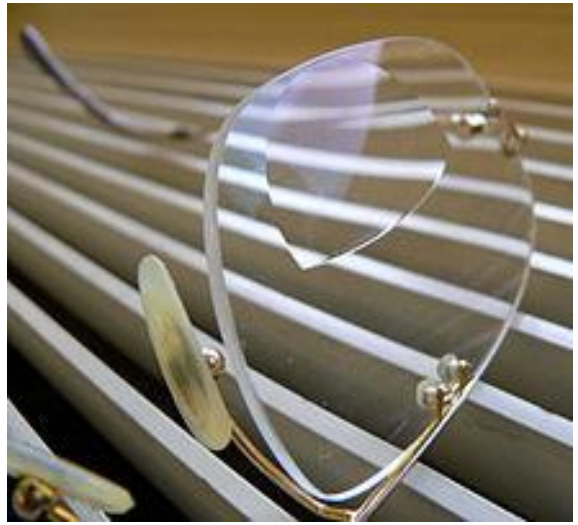


Image: Frank C. Müller

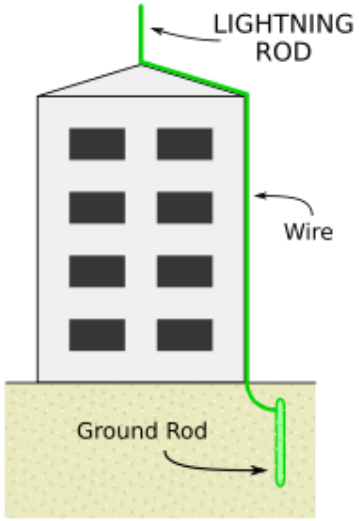


Image: Wikimedia Commons

Glass Armonica



Image: Public Domain

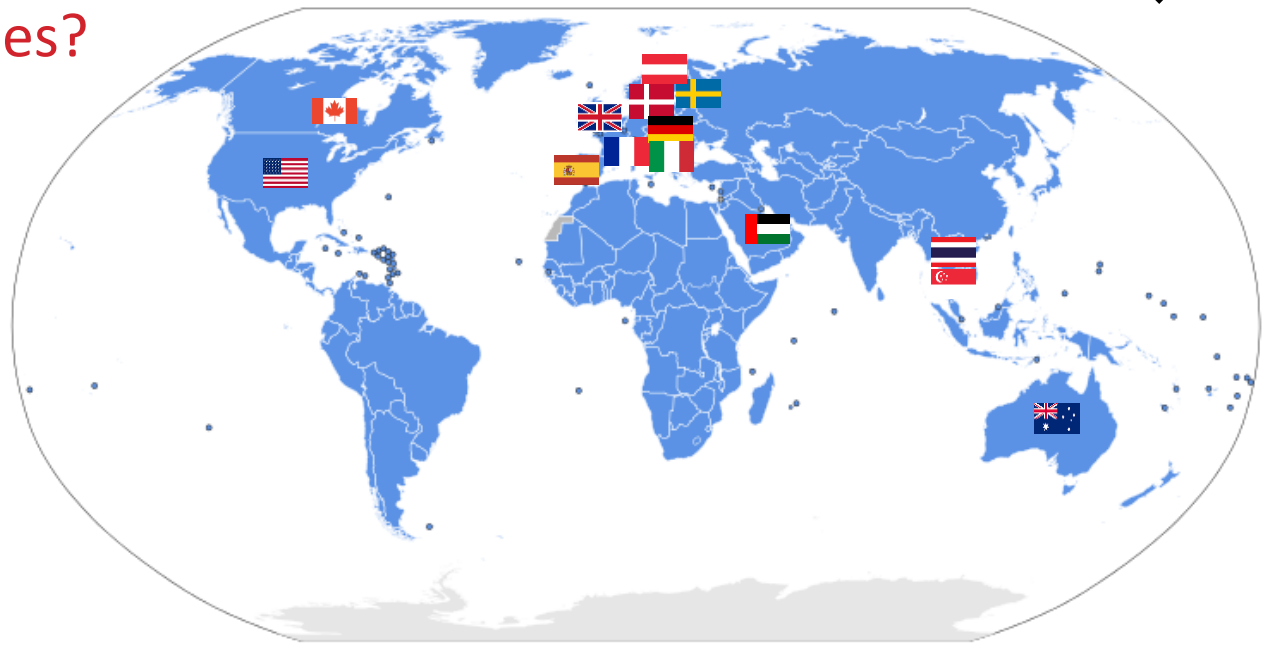


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Data Sovereignty in the Cloud

- Defined: “Information which has been converted and stored in binary digital form is subject to the laws of the country in which it is located”
- Restrict legal access of data
- Preventing unwanted access regardless of geographic location
- How Many Countries?



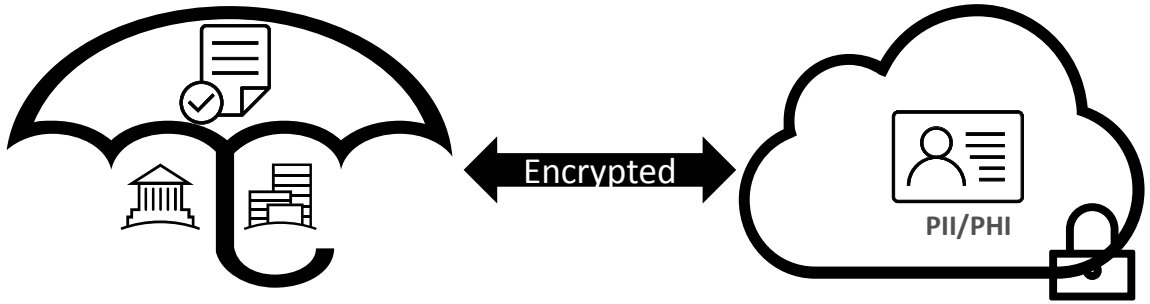
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Regulatory Compliance in the Cloud

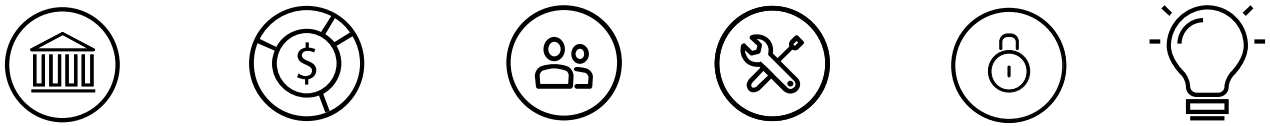
- 85% of large companies are under some form of IT compliance requirements
  - Examples:

Privacy Shield Framework · FISMA COMPLIANCE · PCI · Sarbanes-Oxley Compliant · HIPAA · CMS CENTERS FOR MEDICARE & MEDICAID SERVICES OFFICE OF THE ADMINISTRATOR · FedRAMP

- PII and PHI should not move through the cloud unencrypted

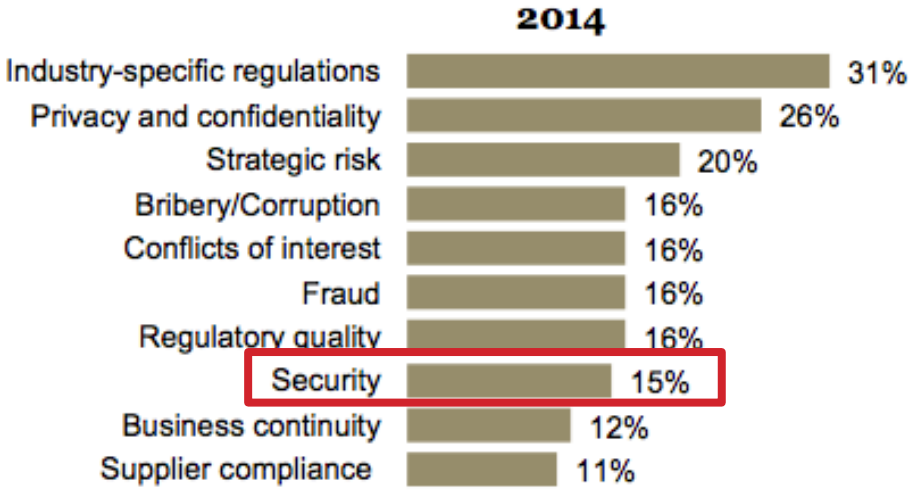


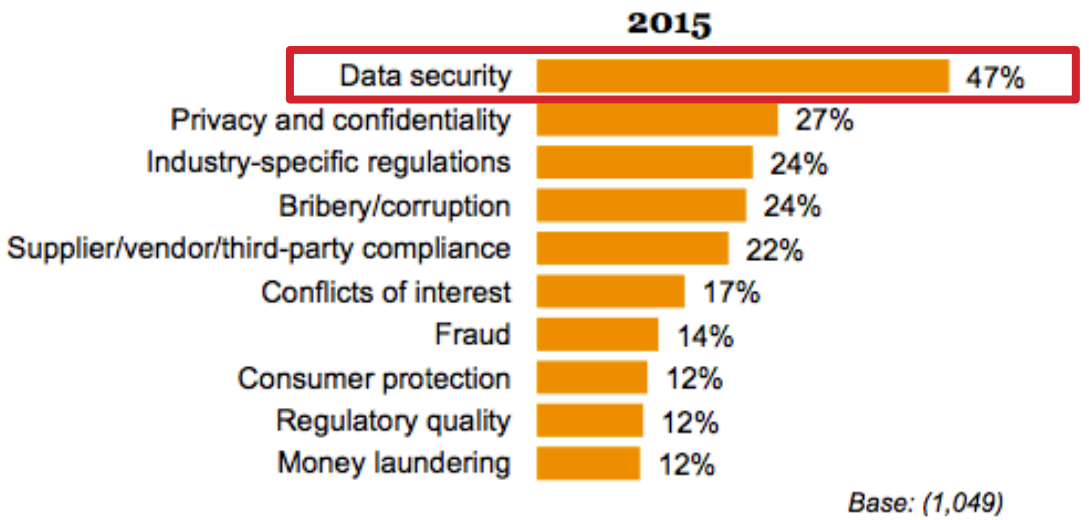
- Multiple Apps Exposed to Regulated Data



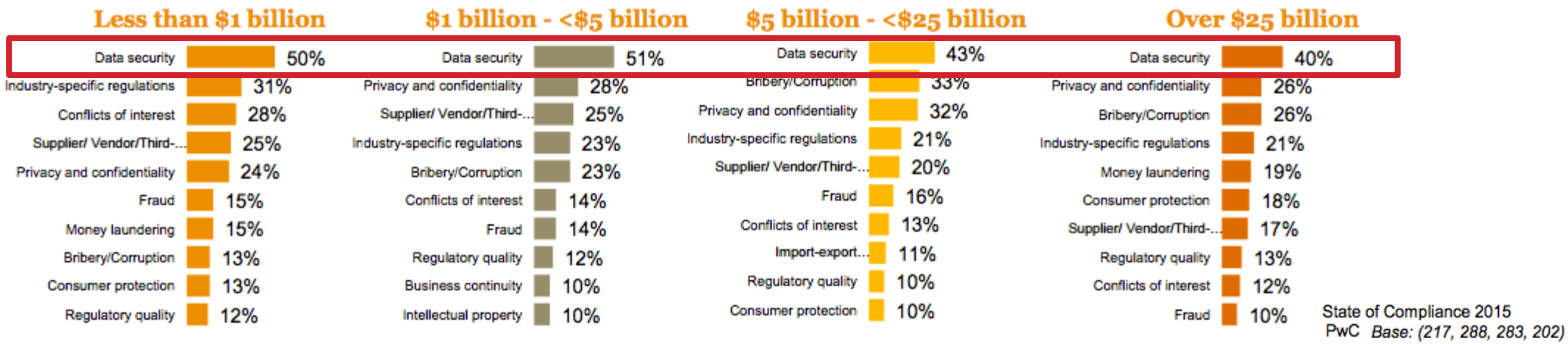
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“Top of Mind” Risk Areas to a Business Over Next 5 Years





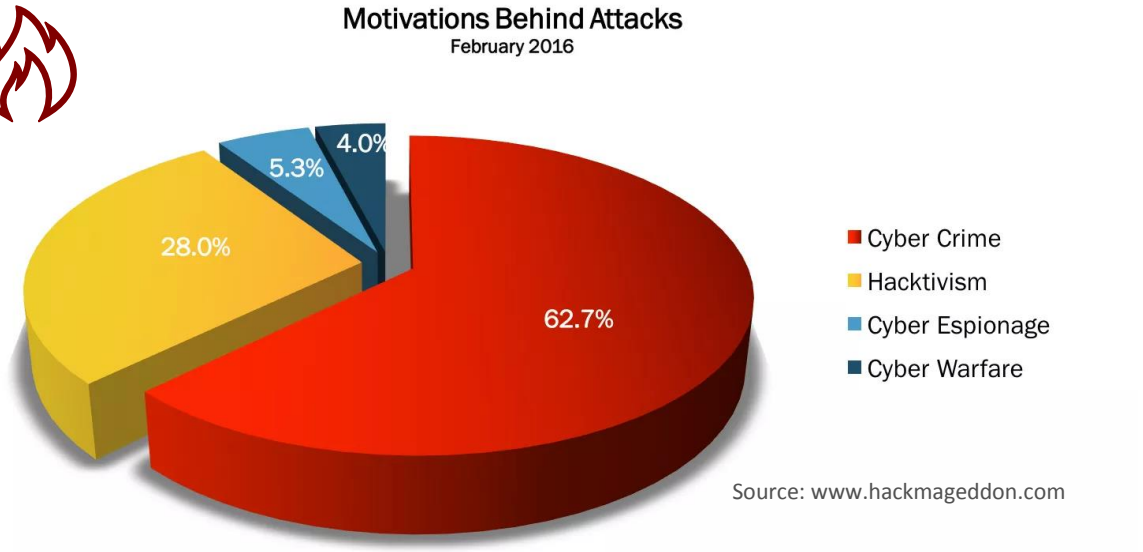
Company Size by Revenue



State of Compliance 2015
PwC *Base: (217, 288, 283, 202)*

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Data Loss Prevention Trends and IT Priorities



Source: www.hackmageddon.com

ServiceNow® Independent Cloud Platform Usage Survey

- ENCRYPTION to protect data tops priority list
- 1,000+ Respondents (CISO, CIO/GM, IT Admin)

- "Through 2020, 95 percent of cloud security failures will be the customer's fault." Gartner, 2015
- And then it's everybody else out to make a dollar on your data.
- Until we actually change the economics of the value of your data, people will be after it.

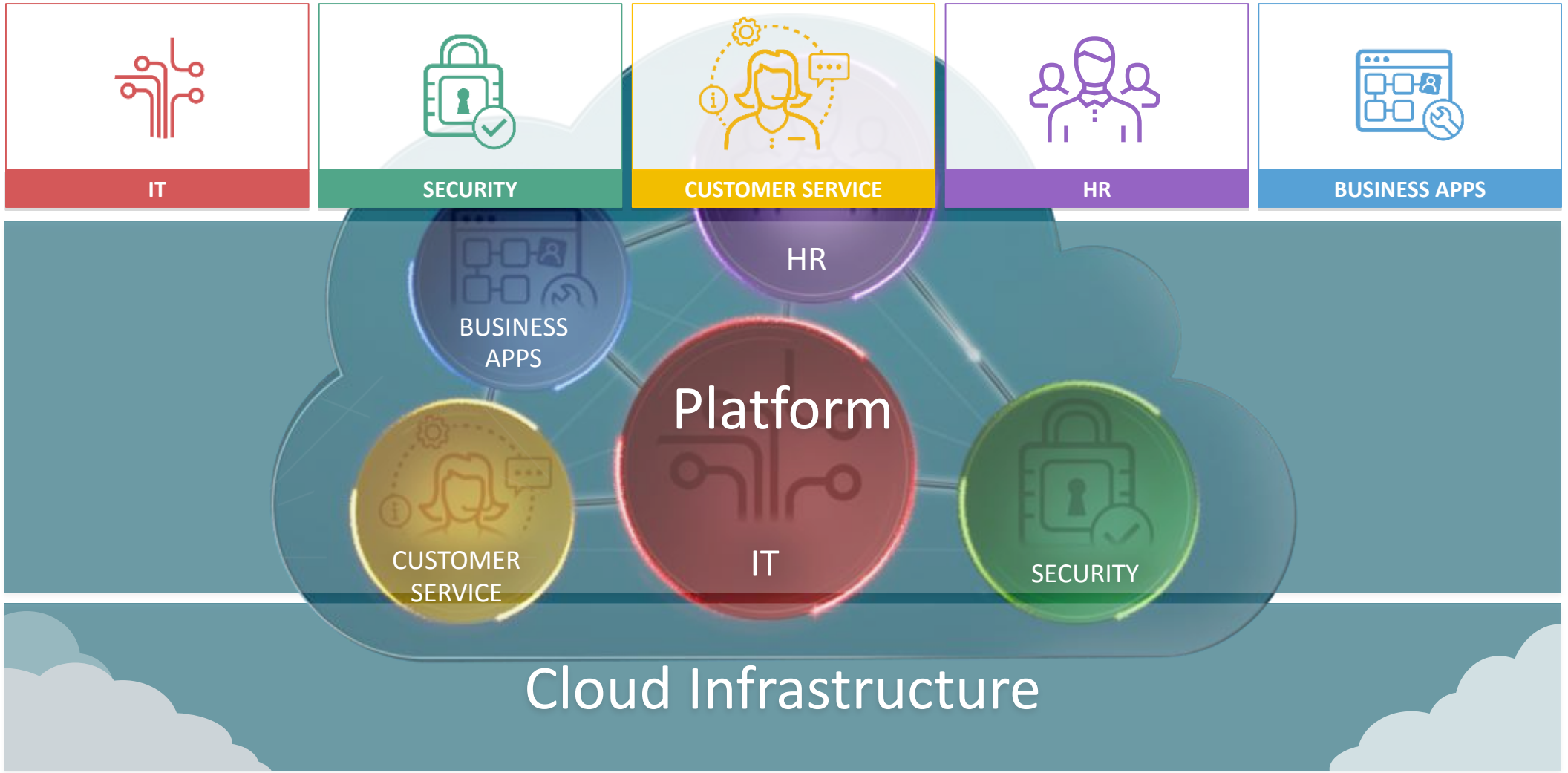
Example contributors to a Data Breach:

- Advanced Persistent Threats
- Internal Misuse of Data or Apps

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ServiceNow® Commitment to Security and Compliance

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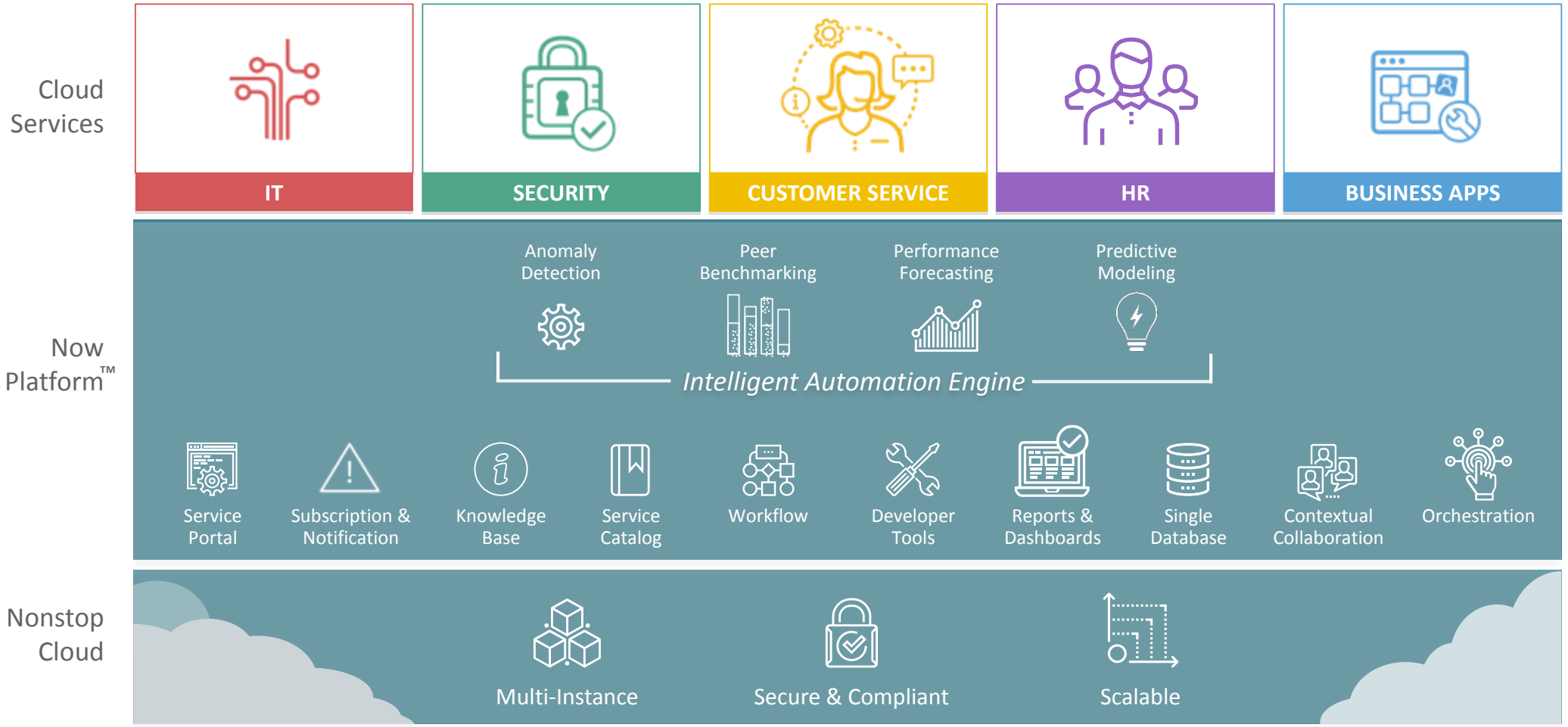


Create Your Unique Enterprise™ with ServiceNow

The Lightspeed Enterprise™

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ServiceNow System of Action™



Create Your Lightspeed Enterprise™ With ServiceNow

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ServiceNow® Edge Encryption™ Overview

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Edge Encryption™ Overview

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- Reduce risk/exposure/loss of sensitive data
- Protect PII and PHI
- Fulfill Governmental and
- Industry Compliance

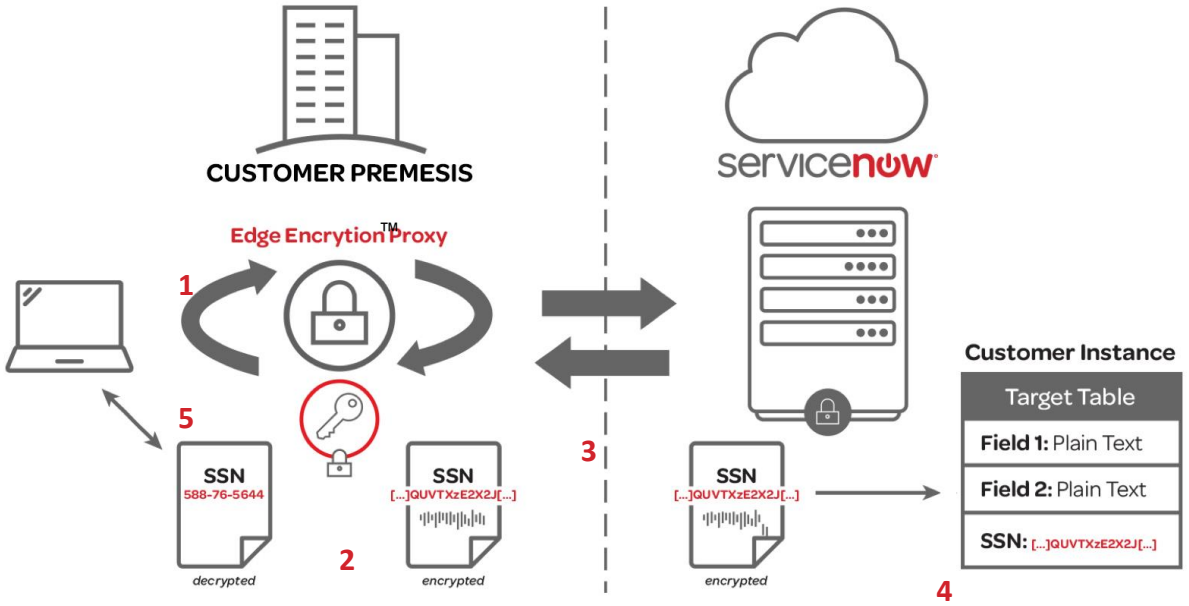


- On-premises proxy encrypts/decrypts data in motion
- Customer owns encryption keys
- Encrypt specific fields or attachments using AES128 or AES256
- ServiceNow is never in possession of, or able to see the clear data
- Tokenize pre-defined data patterns automatically
- Variable encryption options to balance security and operational requirements



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Edge Encryption Components



1. Edge Encryption™ application encrypts specific instance fields or attachments with AES128/256
2. Customers own encryption keys and tokens
3. On-premises proxy that encrypts/decrypts data in motion
4. Data stored in ServiceNow instance is encrypted at rest
5. Supports REST, SOAP APIs

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Start Protecting Sensitive Data Now

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Process to Protect Sensitive Data with Edge Encryption™

Planning

Identify

- Fields and attachments to be protected
- Business Processes
- Compliance and Policy Objectives

Actions

Configure

- Encryption infrastructure
- Encryption and tokenization settings
- Test and Validate end-to-end

Outcomes

1. Data protected at rest and in transit
2. Compliance and Policy Objectives Achieved
3. Resilient and performant encryption architecture

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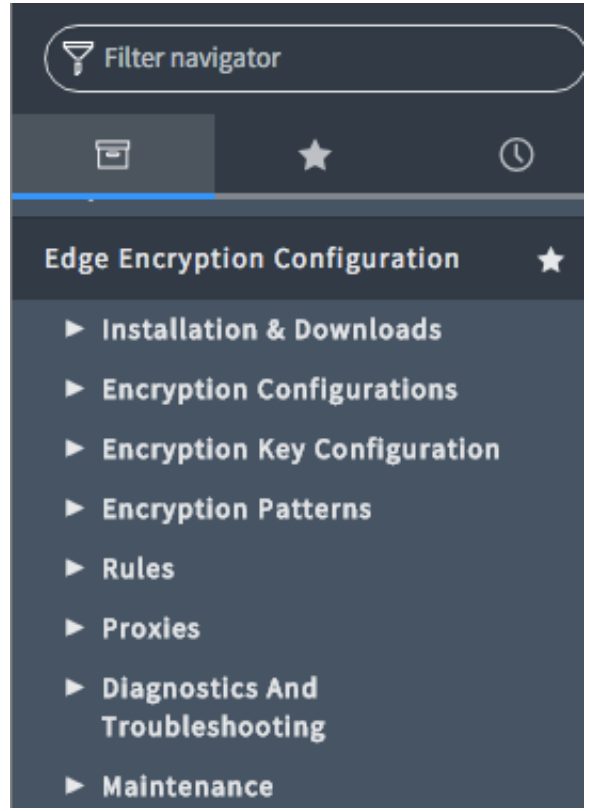
Inside ServiceNow Edge Encryption

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ServiceNow® Edge Encryption™ Plug-in User Interface

1. Access software for on-premises installation
2. Define encryption settings
3. Define encryption keys
4. Define tokenization settings
5. Manage integrations
6. Monitor encryption environment
7. Analyze activity
8. Maintain encryption environment



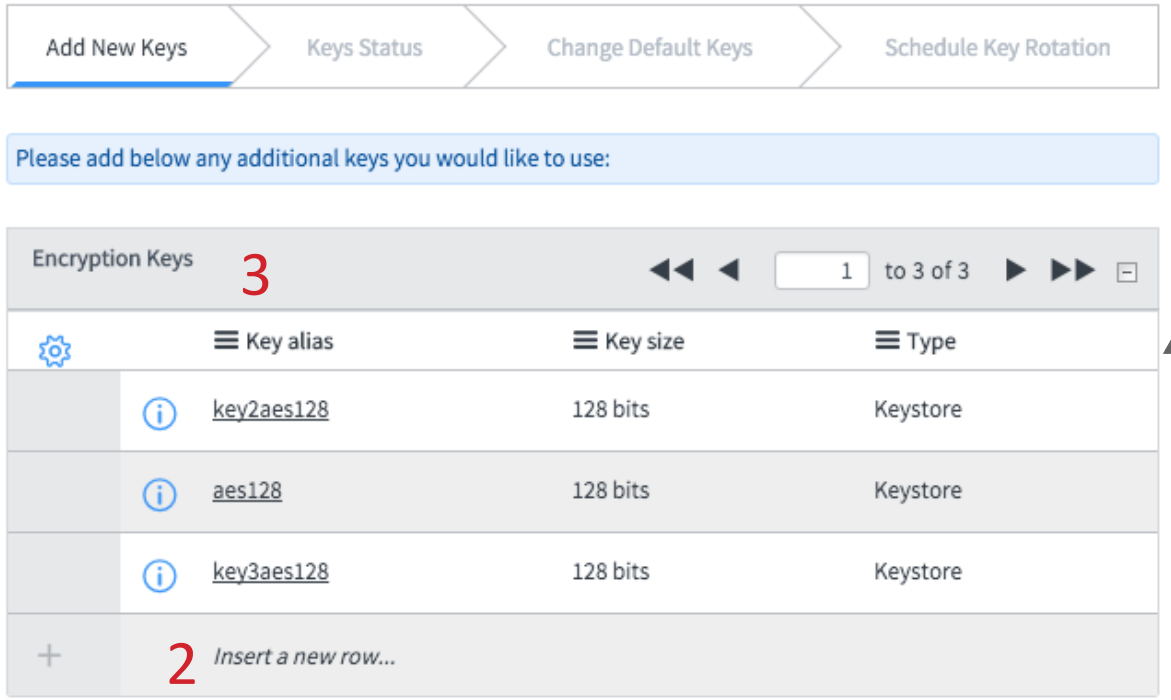


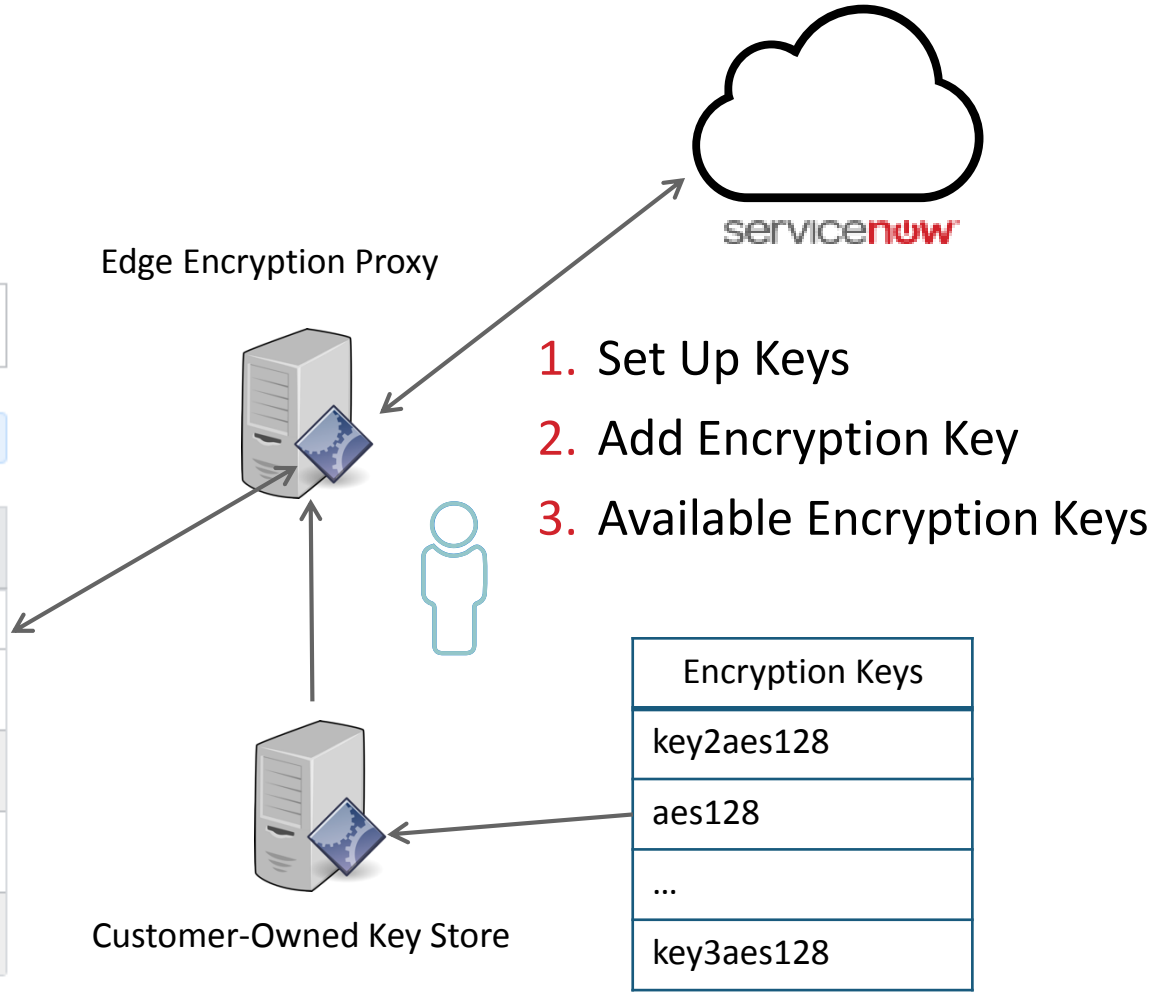
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Setting Up Your Encryption Keys



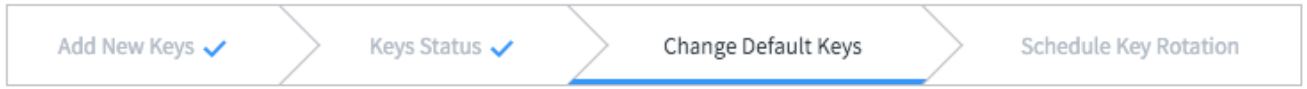
1





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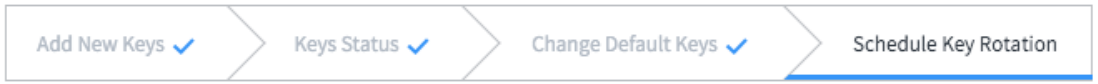
Managing Your Encryption Keys



Please select which keys you want to use as default

Default Key 128 bits 1

key2aes128



2

All previous records were encrypted using the previous default keys. If you want to update those records using the new default key, please schedule a key rotation job

Online Proxies

	Name	Db	Db status	Default key128
✕	Helsinki Encryption Proxy	414e20e4-7c3e-42d7-8ce8-6bb557752cec	Online	key2aes128

3

Encryption Keys
key2aes128
aes128

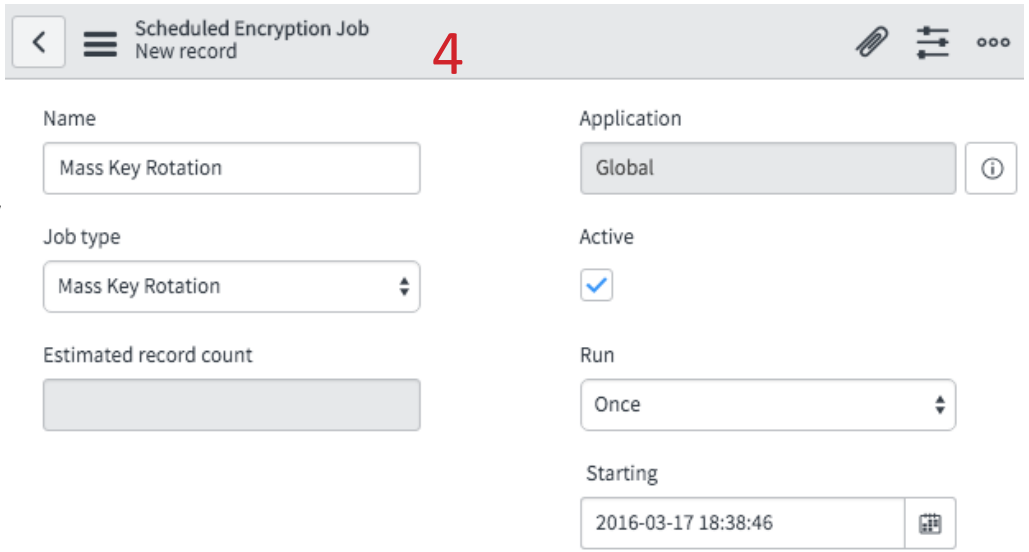
Edge Encryption Proxy







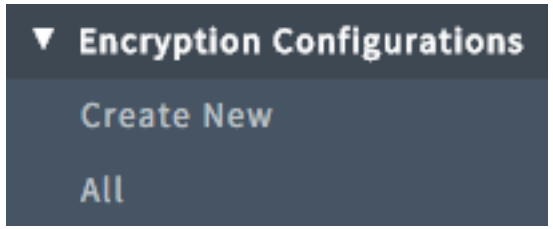
Customer-Owned Key Store



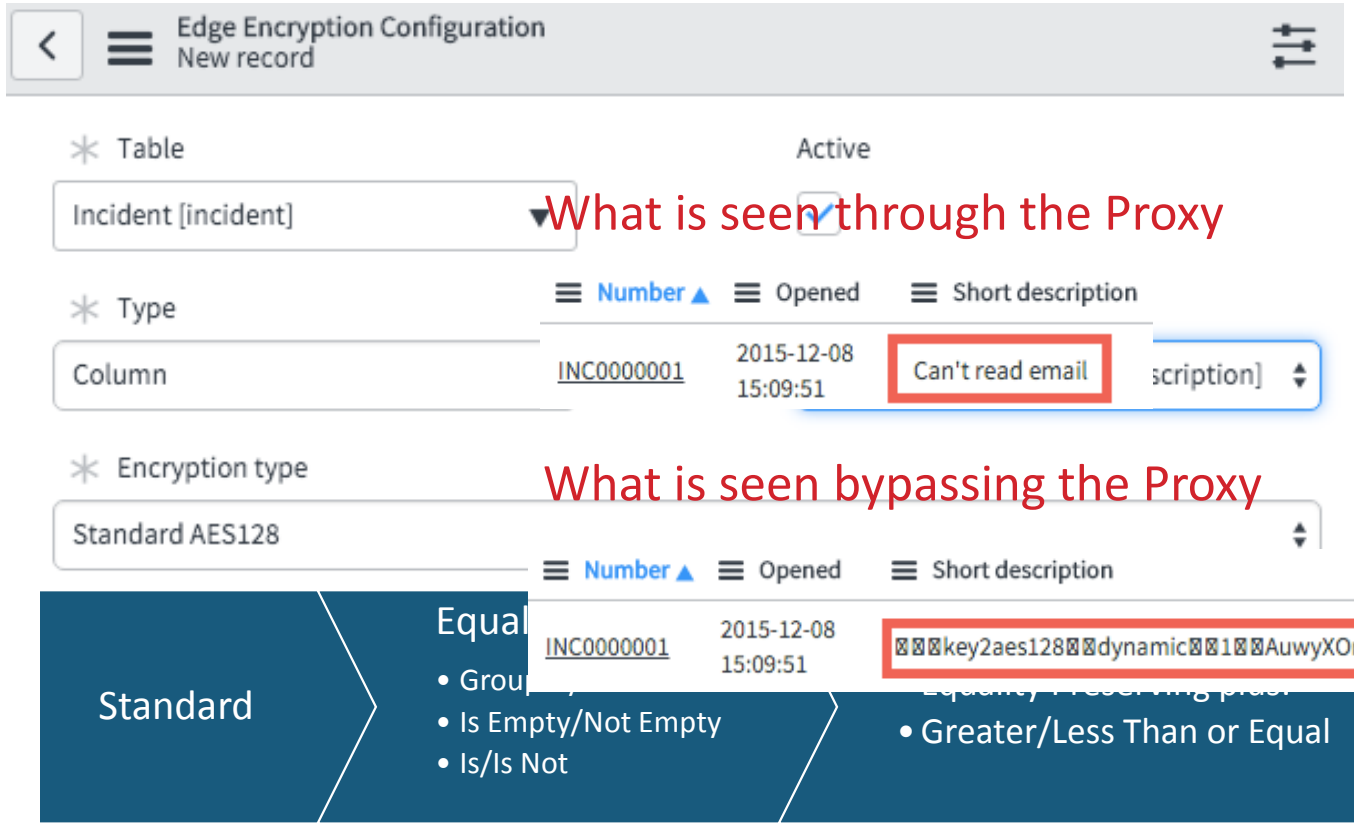
1. Select Default Encryption Key
2. Set Default Encryption Key
3. New Default Key
4. Schedule Key Rotation

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Encrypting Your Data Fields and Attachments









Edge Encryption™ Proxy



Target Table
Plain Text
Plain Text
Attachment
…
Encrypted
Encrypted
Encrypted

Standard

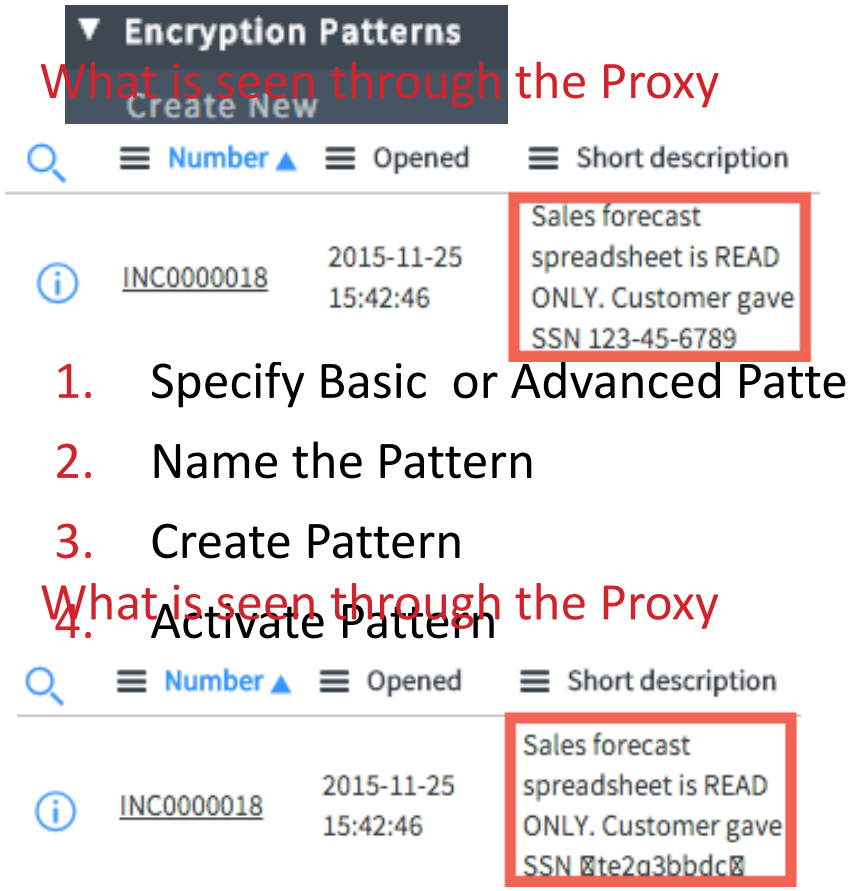
Equal

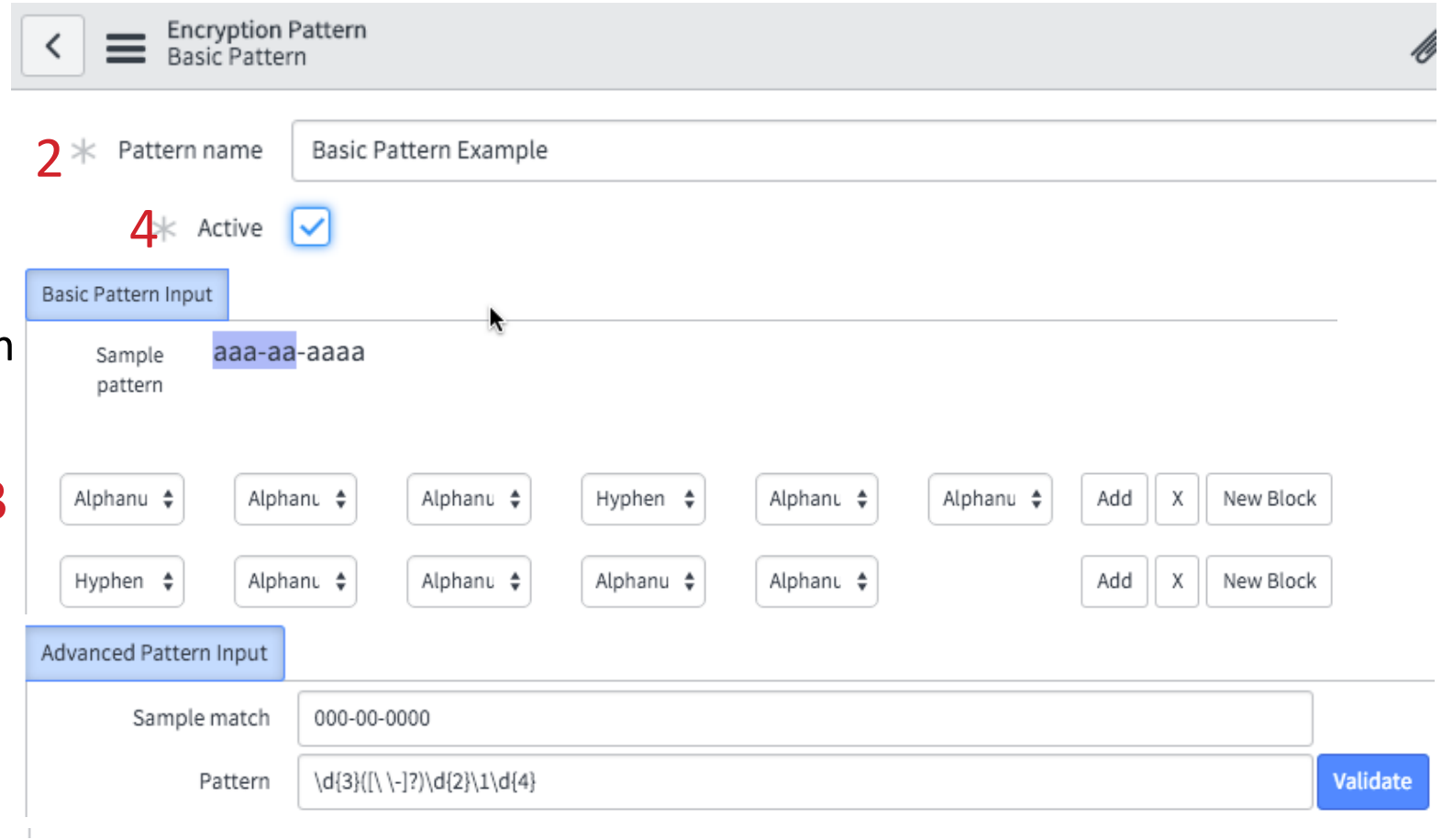
- Group
- Is Empty/Not Empty
- Is/Is Not

- Greater/Less Than or Equal

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Tokenizing Your Data





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Edge Encryption™ Roadmap

Interactive Proxy Installer

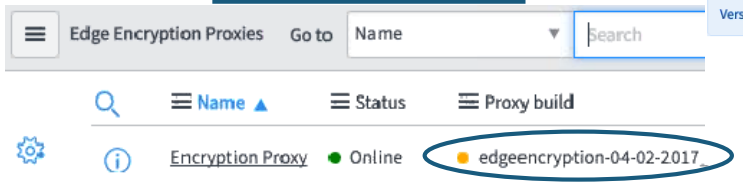


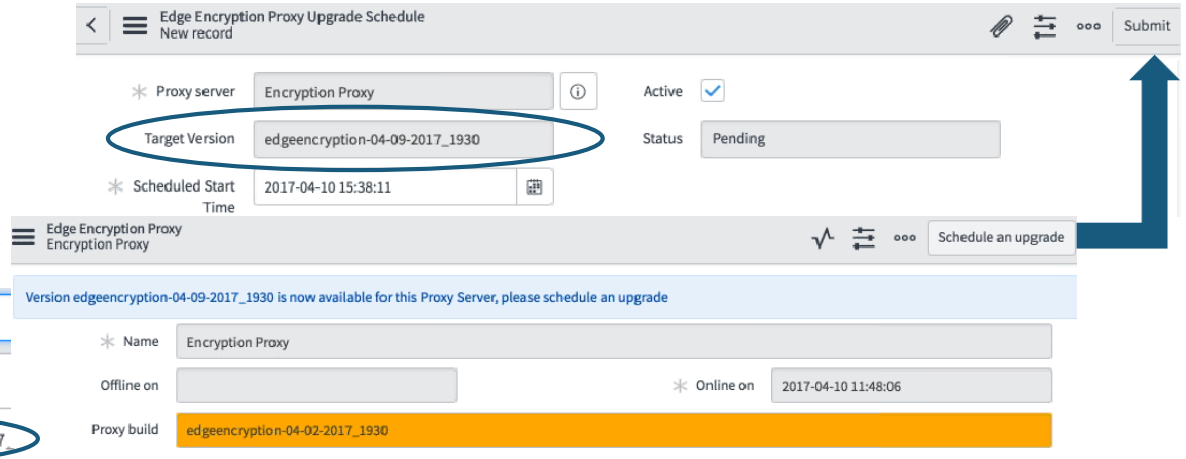
Guided Setup



Proxy Software Upgrader

Upgrade Needed







Upgrade Complete!

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Edge Encryption™ Roadmap



SafeNet Certificate API for SafeNet Key Store



Journal field support (Work Notes, Additional Comments)



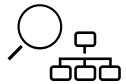
Service Catalog variables



Email Support



Reporting via PDF, Excel and CSV exports



Discovery and Service Mapping



Domain Separation

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Top Takeaways - You Hold the Keys to:

1

Attaining Data Sovereignty

2

Meeting Industry and Governmental Compliance

3

Reducing and Mitigating Risk Against Cybercrime

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Thank You

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