

# IBM Storage Scale Resiliency Services

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# Differentiation of Data Protection Capabilities

**Cyber Resiliency**  
Confidently recovering from a compromised attack

Common Disciplines  
Common Tools  
Common Goals

Focused on loss of data

Focused on impact of loss

Cyber Resiliency

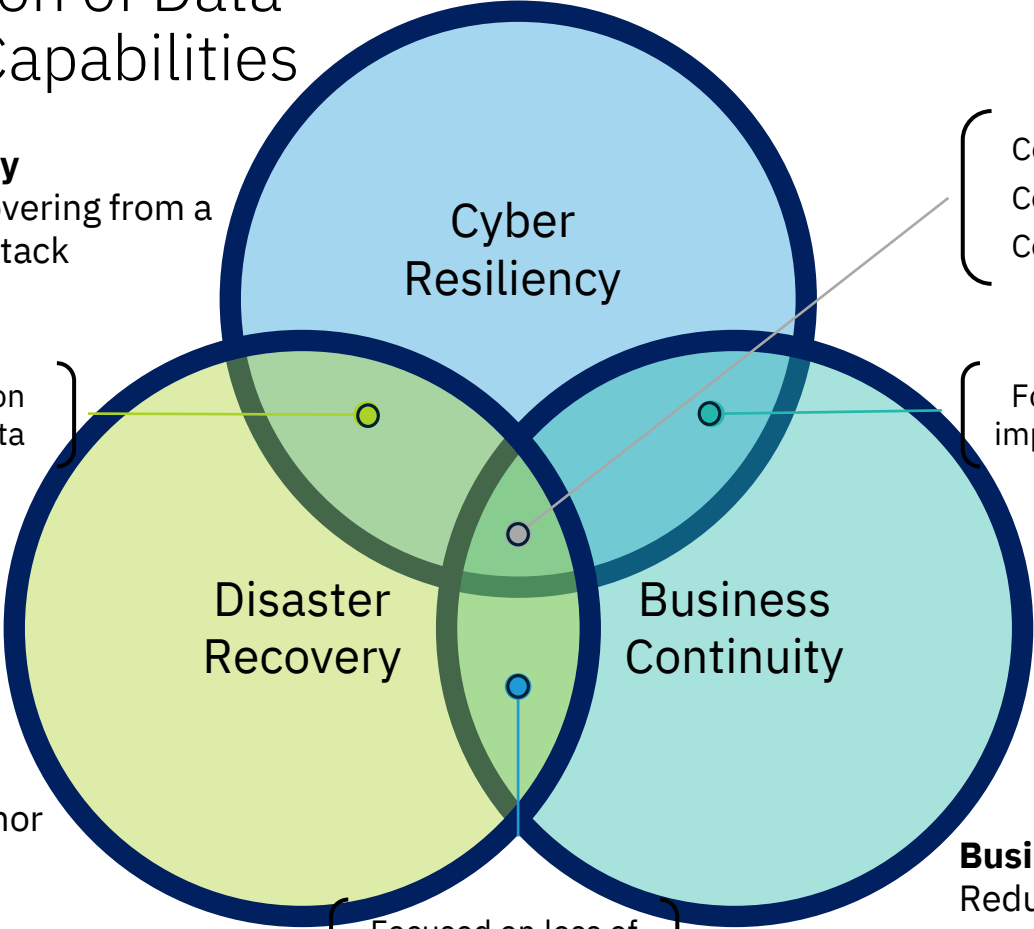
Disaster Recovery

Business Continuity

**Disaster Recovery**  
Recovering from a minor to major data loss

**Business Continuity**  
Reducing the risk to the business, employees, market perception, etc

Focused on loss of infrastructure

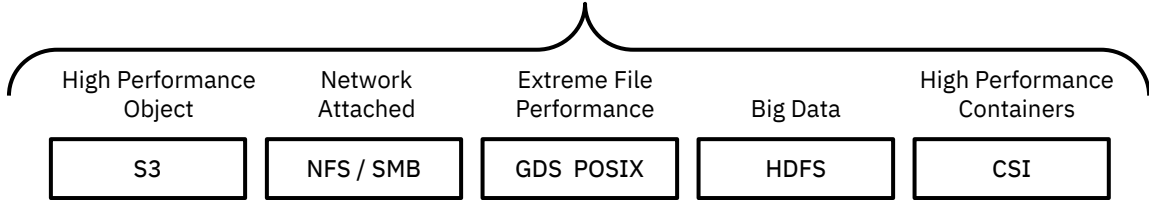


# A Global Data Platform for Unstructured Data

## Unifying File and Object Storage to Provide Common Data Services

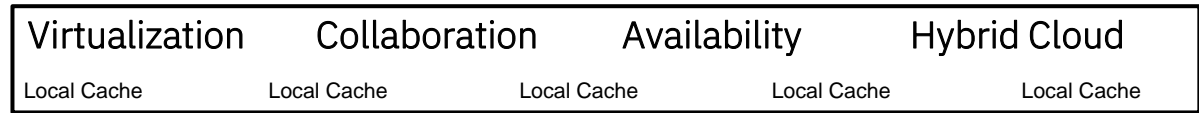


Data Access Services



Data Resiliency Services

Data Caching & Core Services



Identify

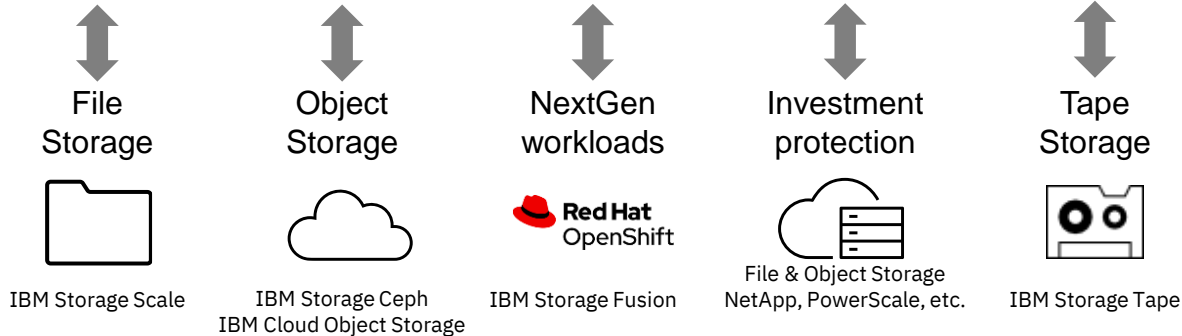
Protect

Detect

Respond

Recover

Data Management Services



# Data Resiliency Services - Active Protection for Cyber Resiliency

## IDENTIFY



- Cyber Resiliency Assessment Tool, Probes 100s of different controls and best practices
- Cyber Incident Response Storage Assessment (CIRSA)

## PROTECT



- Multifactor Auth, RBAC, Privileged Access Monitoring (IBM Security Verify)
- Safeguarded Copy, Logical air gap
- Scan snapshots for signs of ransomware (CyberVault)
- Log all Admin & user actions

## RECOVER



- Instant access with Storage Scale AFM
- Storage Scale and Spectrum Storage – recover multi-petabyte filesystems in hours
- CyberVault
- QRadar Incident Forensics



## DETECT



- QRadar and Splunk SIEM integration
- File Audit Logging, Watch Folders
- Analyze backup data for signs of ransomware (Storage Protect)
- Reporting: QRadar User behavior analytics

## RESPOND



- Automated action upon threat detection (QRadar)
  - Snapshot, Block Session , Etc..
- Alerts automatically prioritized based severity of the threat and criticality of the assets involved

# Identify: Take an assessment

## Storage Cyber Resiliency Assessment Tool

No-charge assessment

Helps assess your current state

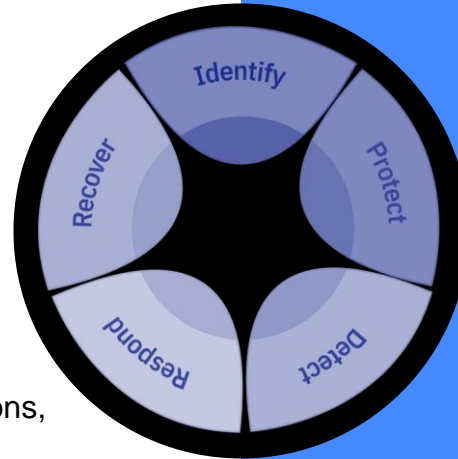
Identifies gaps, strengths, and weaknesses against best practices

### Outcomes

- Identify blind spots and recommended areas for improvement
- Discover use of existing solutions, integrations, and overlaps that can be fine-tuned
- Create customized cyber resilience strategy

To request an assessment, contact your IBM Sales Rep or Business Partner, or send an email to the following

[Request an assessment](#)



## Cyber Incident Response Storage Assessment

Identifies strategic cyber resiliency goals

Overview of storage and current cyber resiliency capabilities

Identifies gaps and exposures

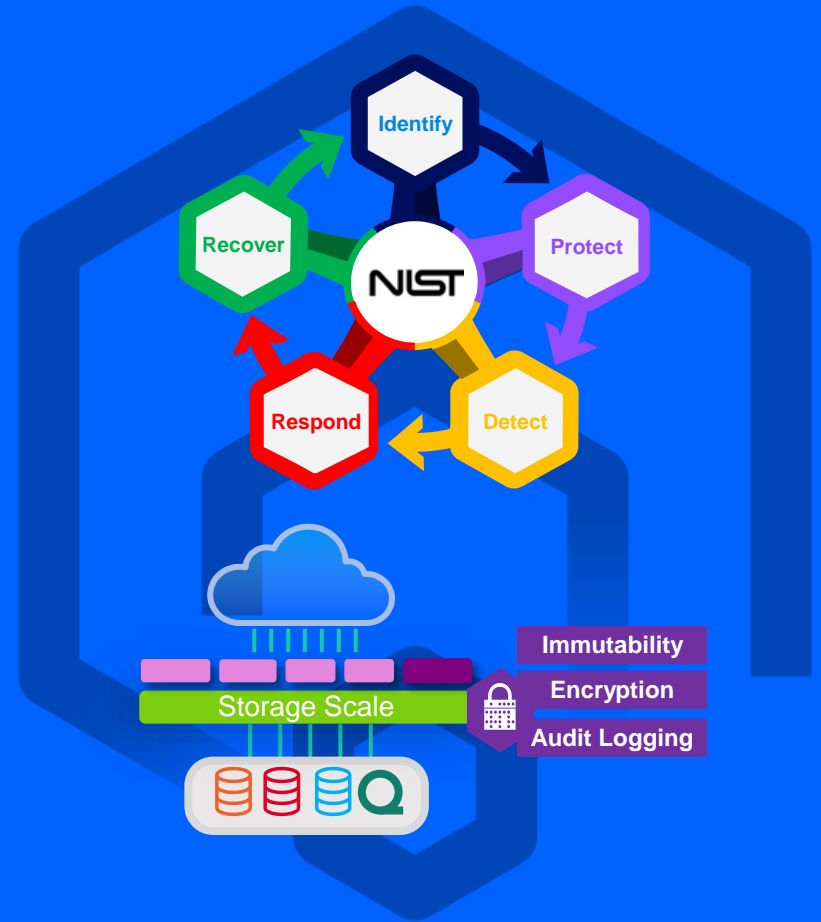
Provides recommendations and highlights best practices

### Outcomes

- Develops a cyber resiliency plan that aligns storage infrastructure capabilities and business requirements
- Provides a prioritized recommendations roadmap

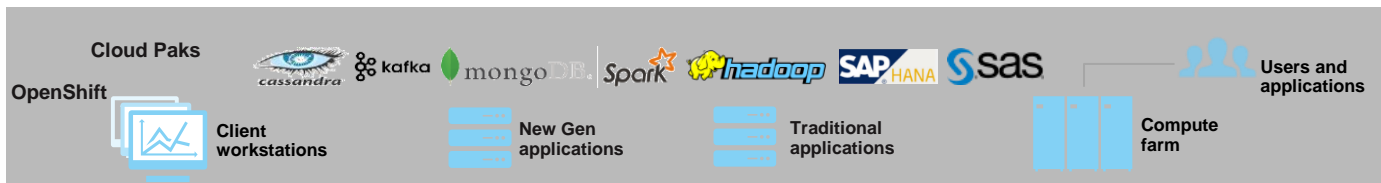
# Storage Scale Security and Cyber Resiliency

- Centralized authentication and access control
- Data encryption and cryptographically secure erase
- Immutability
- Audit logging
- Data protection through snapshots, replication, backup, and/or disaster recovery
- Data dispersal and erasure code for faster rebuild times
- End-to-end checksum to catch errors
- Integration with Spectrum Storage family
- NIST/FIPS certification



# Storage Scale – Providing Data Centric Security to Workloads

Security & Privacy by Design



## Comprehensive Data Security

Industry Compliance	Features	Advance Features	Ecosystem/Solutions
<ul style="list-style-type: none"> <li>GDPR</li> <li>HIPAA</li> <li>FFIEC</li> <li>PCI-DSS</li> <li>LGPD &amp; CCPA</li> <li>ISO 27040-2016</li> <li>NIST/FIPS</li> </ul>	<ul style="list-style-type: none"> <li>Filesystem Encryption</li> <li>Secure Delete</li> <li>Immutability</li> <li>FAL – File Audit Logging</li> <li>Kerberos (NFS, SMB)</li> <li>POSIX &amp; NFSV4 ACL</li> <li>AD/LDAP support</li> <li>RBAC Admin (GUI)</li> <li>Admin mode central</li> </ul>	<ul style="list-style-type: none"> <li>Multi Factor Auth</li> <li>Fileset level FAL</li> <li>Live Antivirus</li> <li>Trusted Boot (5.1.8)</li> <li>sudo root admin</li> <li>IPv6 (IPSEC)</li> <li>SELinux</li> </ul>	<ul style="list-style-type: none"> <li>Secure AI</li> <li>Safeguarded Copy</li> <li>CyberVault</li> <li>Cloud Pak for Security</li> <li>SEIM Integration                             <ul style="list-style-type: none"> <li>QRadar</li> <li>SPLUNK</li> </ul> </li> <li>IBM Secret Server</li> <li>IBM Spectrum Discover</li> </ul>



# IBM Storage Scale Safeguarded Copy



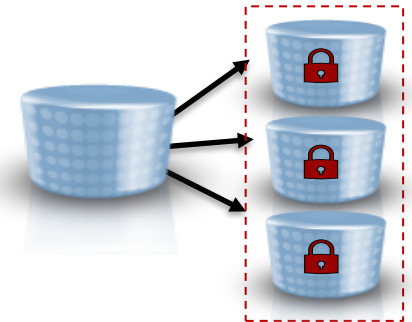
**Protect against and recover from a cyber attack**

- **Immutability:** Safeguarded Copy for immutable point-in-time copies of production data with policy-based control
- **Isolation:** Air Gap “offline by design” and separation from other files
- **Access Restrictions:** Separation of duties between different administration staff to create a checks and balances approach

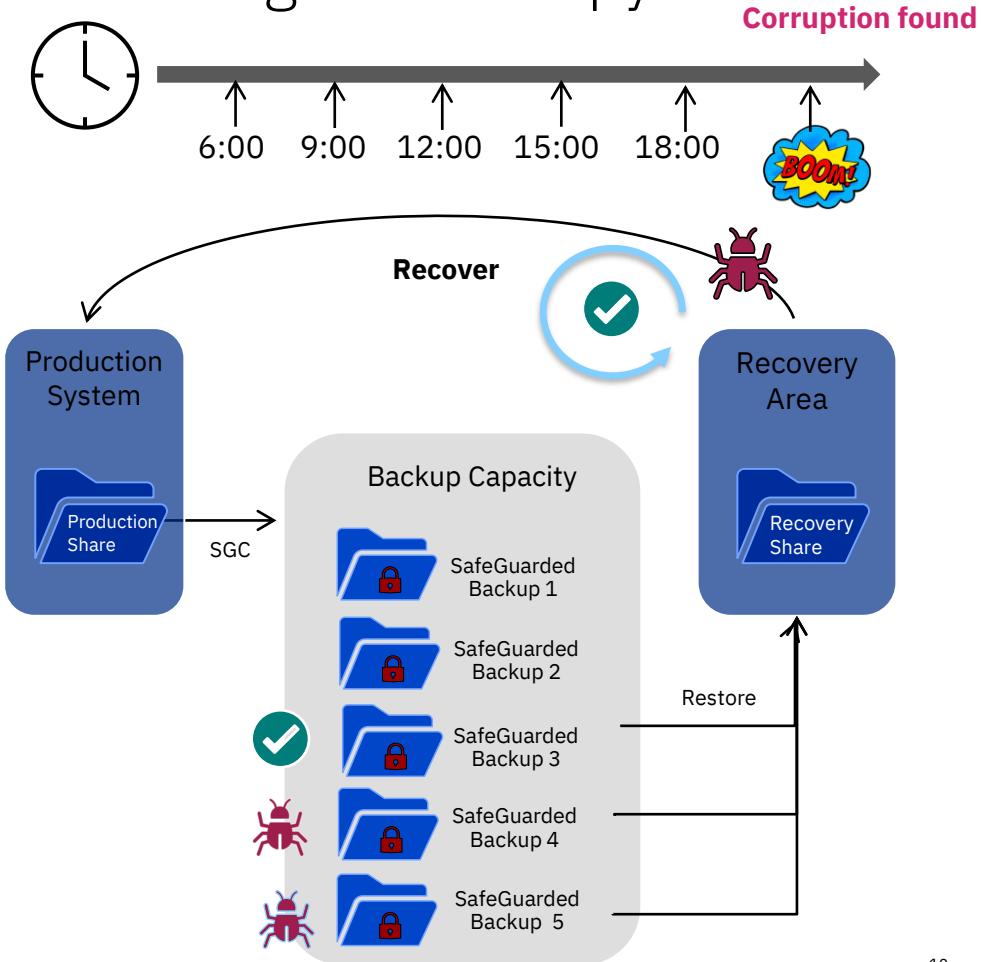
Up to 256  
immutable point-in-time  
metadata enhanced  
copies of data per  
fileset

Fast restore  
from Primary  
Storage

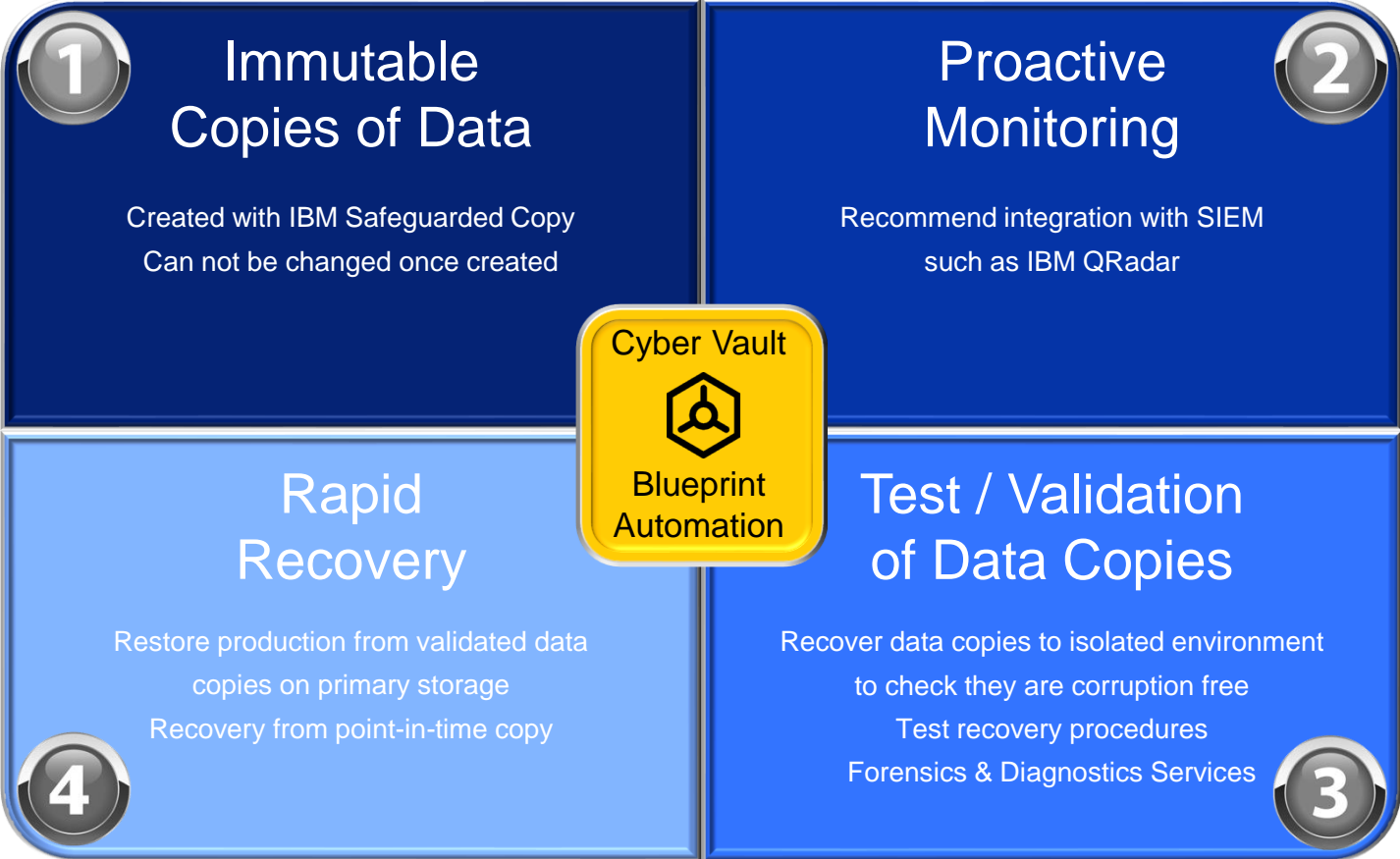
Prevents modification or deletion of sensitive point-in-time copies due to user error, malicious destruction, or ransomware attack



# IBM Storage Scale Safeguarded Copy



# Data Resiliency Services - Active Protection for Cyber Resiliency




# IBM Storage Scale & Storage Scale System Security Related Papers

**Securing Data on Threat Detection Using IBM Spectrum Scale and IBM QRadar An Enhanced Cyber Resiliency Solution**

Redbooks

Dr. Brijesh Chakrabarty  
Ajay Kulkarni  
Pragya Lakshmi Majumdar  
Smita Das  
Sandeep Paul  
Dipraj Mondal



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**Security**  
**Storage**

IBM Redpaper

**HIPAA Compliance for Healthcare Workloads on IBM Spectrum Scale**

Redbooks

Sandeep R. Paul  
Sandeep Dandia



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**Security**  
**Storage**

IBM Redpaper

**IBM Spectrum Scale Immutability Introduction, Configuration Guidance, and Use Cases**

Redbooks

Nils Heussen




In partnership with IBM Academy of Technology

IBM Redpaper

**IBM Spectrum Scale Security**

Redbooks

Felix Knap  
Sandeep R. Paul  
Ajay Kulkarni  
Lalit Coyne



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**Cloud**  
**Storage**

IBM Redpaper

IBM Storage Solution Brief

**IBM**

**Boosting cyber resilience with threat detection**

Build cyber resilience solutions that includes threat detection, as well as data protection and recovery

**Highlights**

- Deploy IBM Spectrum Scale for innovative data management and protection
- Integrate IBM QRadar to enhance cyberthreat detection
- Include additional IBM Spectrum Storage solutions for enhanced protection
- Relay on validated solutions in IBM Redbooks to lower costs and risk

The financial impact of cyberattacks continues to rise. According to cybersecurity analyst firm Ponemon, the average cost of a data breach in 2023 was a staggering \$3.92 million dollars per incident. Moreover, the chance of experiencing a data breach over the next two years has risen to 29.6%.

For enterprises in the 21<sup>st</sup> century, the question of cyberattacks is not if – but when.

Cyberattacks can happen in various ways. They may take the form of ransomware or surveillance targeted at stealing confidential data or holding valuable information for ransom. Sometimes these attacks are designed to destroy confidential data in order to cripple organizations.


Surprisingly, 34% of data breaches involve internal actors.<sup>1</sup>

Cybersecurity is the discipline involved in protecting organizations from threats such as data theft and cyberattacks. But what happens when cybersecurity efforts fail and digital systems are compromised, either accidentally or intentionally? This is the domain of cyber resilience, which refers to the preparation organizations make to deal with threats and vulnerabilities. The defenses that have been developed, and the resources available for mitigating security failures after the fact. Cyber resilience capabilities are essential in IT systems, critical infrastructure, business processes, organizations, societies, and nation-states.<sup>2</sup>

**IBM Spectrum Scale Functionality to Support GDPR Requirements**

Redbooks

Sandeep R. Paul  
Chaitanya Barma  
Gauri Das  
Felix Knap  
Nils Heussen



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**Security**  
**Storage**

IBM Redguide

**IBM Spectrum Scale and IBM StoredIQ Identifying and securing your business data to support regulatory requirements**

Redbooks

Sandeep R. Paul  
Sankarsh Eda  
Atul V. Gore  
Nils Heussen



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**Analytics**  
**Storage**

IBM Redpaper

**Privileged Access Management for Secure Storage Administration IBM Spectrum Scale with IBM Security Verify Privilege Vault**

Redbooks

Vincent Hu  
Droher Mappell, PhD  
Sandeep R. Paul  
Rajal Jadhav  
Smita Das  
Nehal Singh



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**Security**  
**Storage**

IBM Redpaper

IBM Storage

**Cyber Resiliency Solution for IBM Spectrum Scale**

IBM Storage Team

**IBM**

**IBM**