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Data Leak Prevention (DLP) Implementation Strategy

John E. Burke
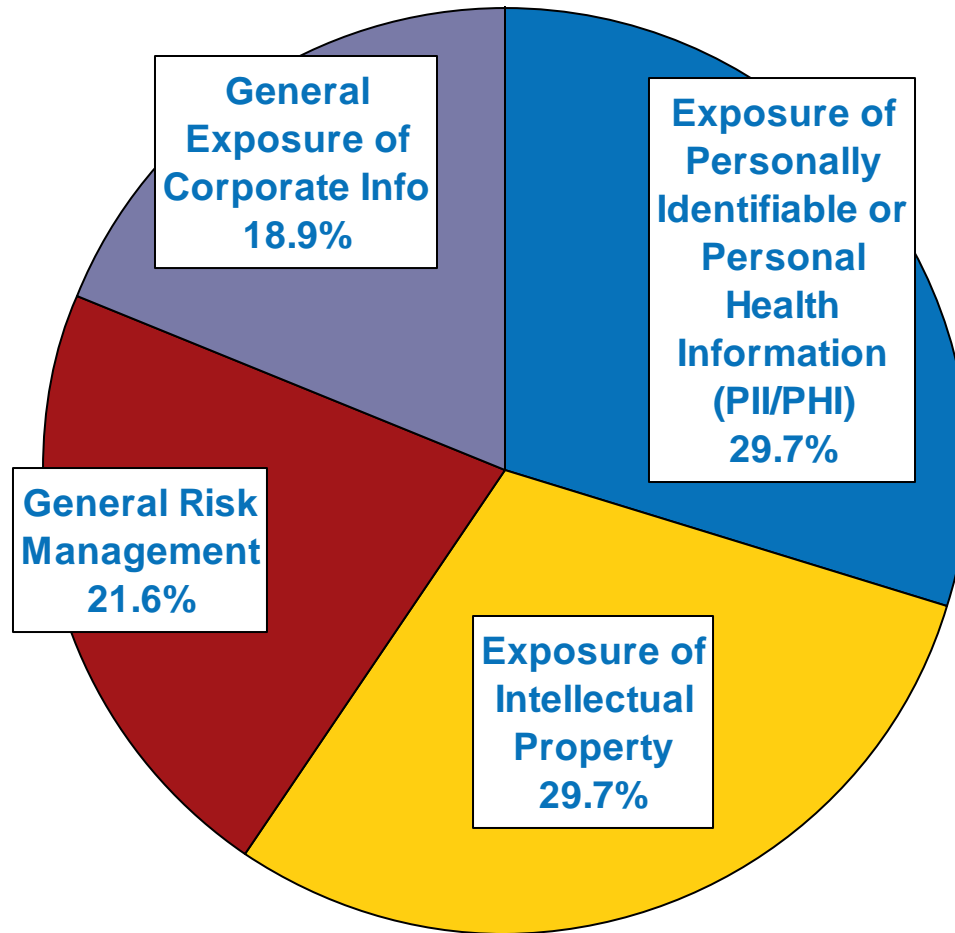**Principal Research Analyst**
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Agenda

- **About Nemertes**
- **DLP Adoption Trends and Architecture**
- **Implementation Considerations**
- **Conclusion and Recommendations**

About Nemertes

- **Quantifies the business impact of emerging technologies**

- **Conducts in-depth interviews with IT professionals**

- **Advises businesses on critical issues such as:**
  - **Unified Communications**

  - **Social Computing**

  - **Data Centers & Cloud Computing**

  - **Security**

  - **Next-generation WANs**
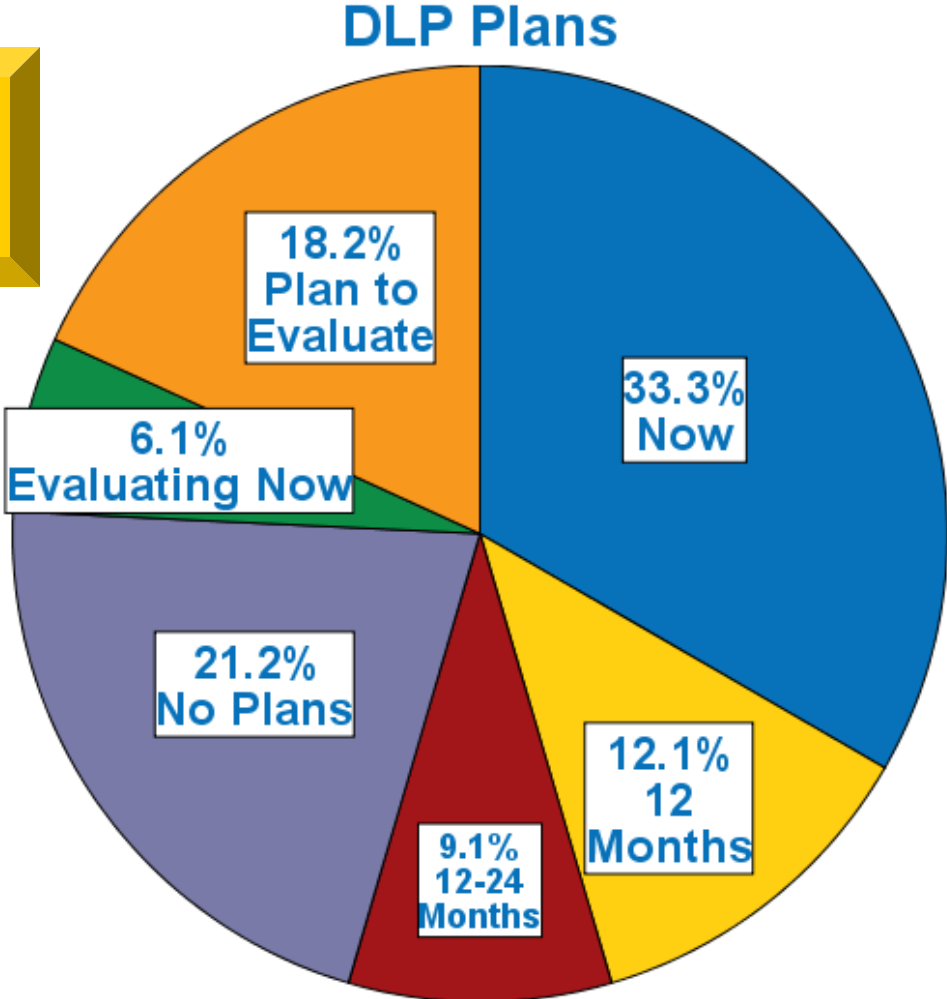
- **Cost models, RFPs, Architectures, Strategies**

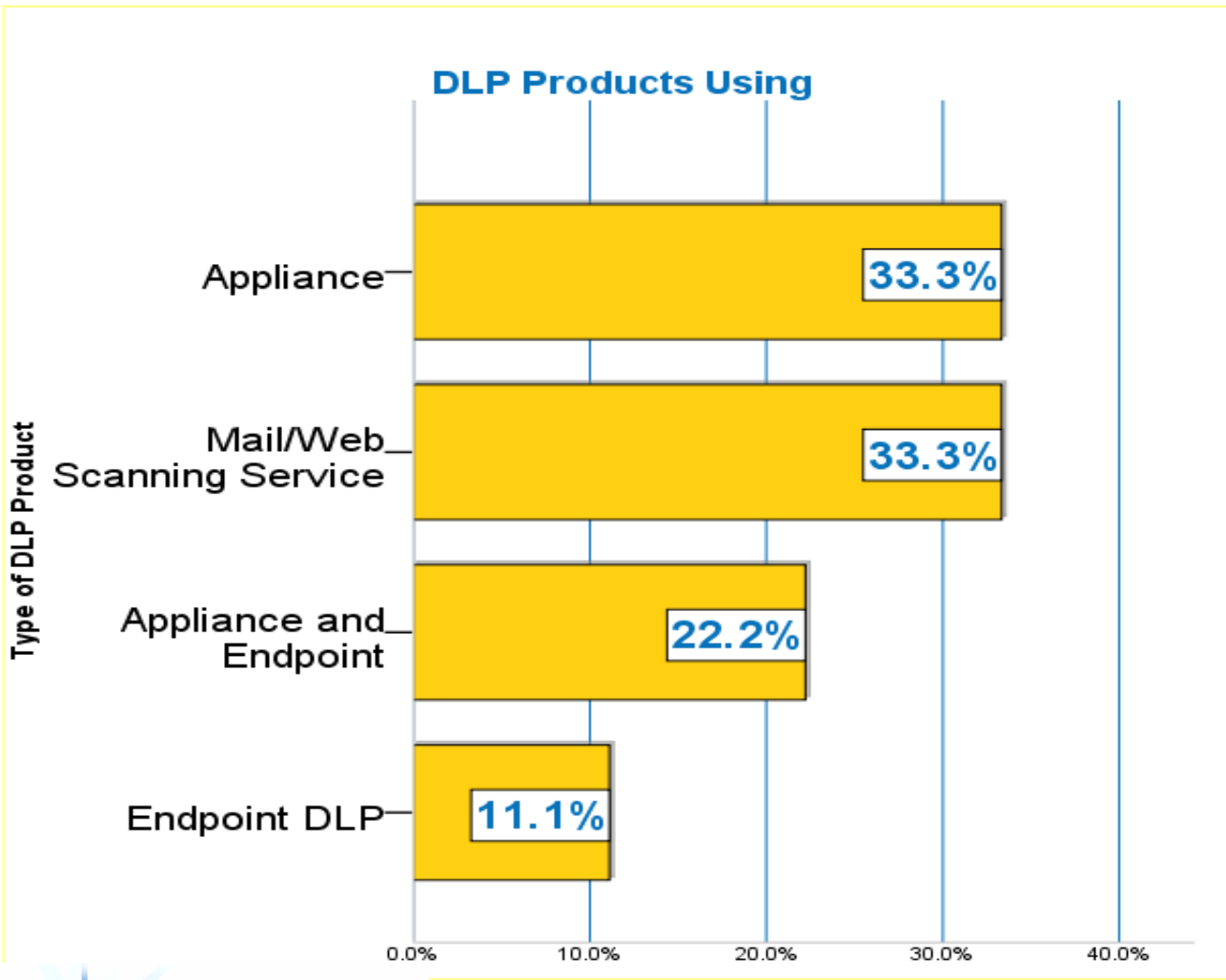# DLP Adoption Trends and Architecture

Protection of What?

General Exposure of Corporate Info 18.9%

Exposure of Personally Identifiable or Personal Health Information (PII/PHI) 29.7%

General Risk Management 21.6%

Exposure of Intellectual Property 29.7%

Enterprise DLP Plans

Average start is 2007

DLP Plans

- 18.2% Plan to Evaluate
- 6.1% Evaluating Now
- 33.3% Now
- 21.2% No Plans
- 9.1% 12-24 Months
- 12.1% 12 Months

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DLP Products In Use

Average spend of $95/employee

DLP Architecture

Content Types
- IM
- Files
- Email
- Web Content
- Webmail

Data Discovery

Contextual Search

Operational Context

Policy Enforcement

Control Points
- Cloud
- Network
- Endpoint

Management Interface
- Dashboard
- Policy Management
- Compliance Management
- Incident Management

Data in Use (Endpoint)

Data in Motion (Network)

Data at Rest (Storage)

Implementation Considerations

- **Education is a critical success factor**
  - **Identification of PII, PHI and corporate confidential information**
  - **Understanding of processes to protect above**
  - **Understanding risks of the web**
    - **Phishing and spear phishing**
    - **The importance of keeping anti-X current**
  - **Understanding social engineering**

- **Significant risk is staff thinking they are doing "the right thing"**
  - **Example: "Emails down so I'll send you the sales forecast via my webmail account….."**

DLP Process Considerations

- **Disturbing Lack of Process?**
  - **Often, implementation is piecemeal and a knee-jerk reaction to a breach or near-breach**
- **DLP needs to follow a risk-based process – top down**
  - **Define assets and assign values to loss**
  - **Define vulnerabilities and assess probability of exploit**
  - **Define all risks, their probability and impact**
  - **Determine the preventive and detective DLP controls necessary**
- **Focus on continual improvement**
  - **Follow a plan, do, check, act process to continually review DLP**
  - **Every data loss prevented needs a root cause analysis and establishment of process to prevent a repeat**

Ten DLP Must Haves

- **Universal search and automated discovery of sensitive data**
  - **Includes sensitivity to removable storage – USB drives, CDs and DVDs**
- **Minimal performance overhead**
- **Operational context to prevent leaks of specific data**
  - **Healthcare, financial, personnel, manufacturing, education, etc.**
- **Monitoring and blocking all data types and network protocols**
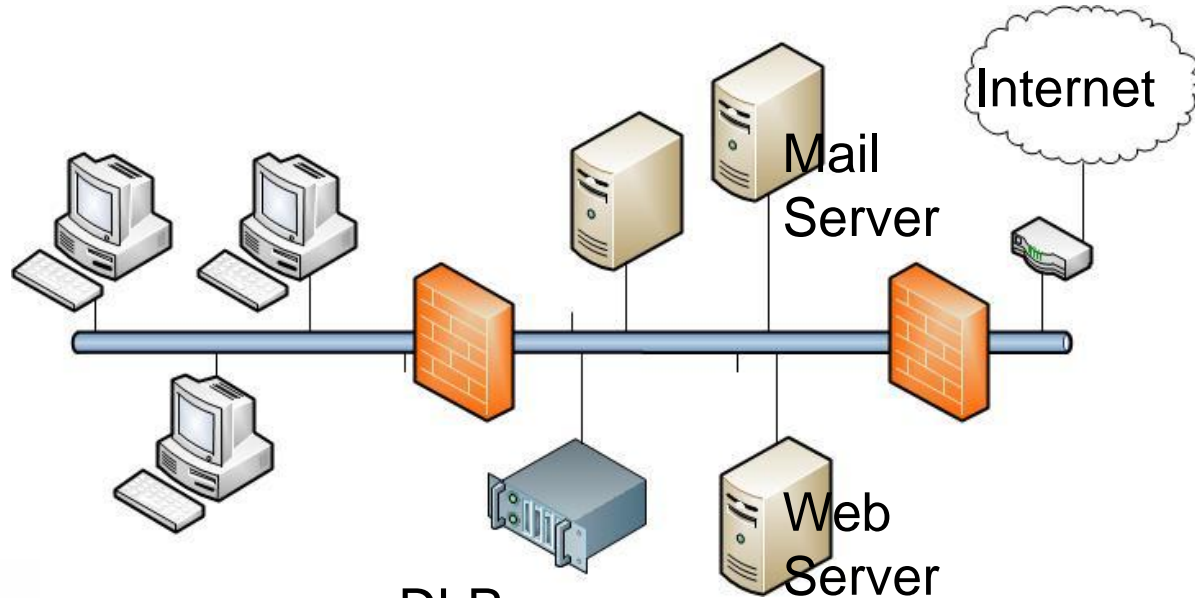- **Automated reporting to support compliance and audit requirements**

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- **Close tracking of false positives and negatives**
  - **False negatives → Data breach**
  - **False positive → Drain on management resources**
- **Visibility and control over encrypted data**
  - **Closely track non-VPN SSL traffic**
- **Role-based control over quarantined data**
- **Automation of policy enforcement and incident response**
- **Close integration with Security Information Event Management (SIEM) systems**

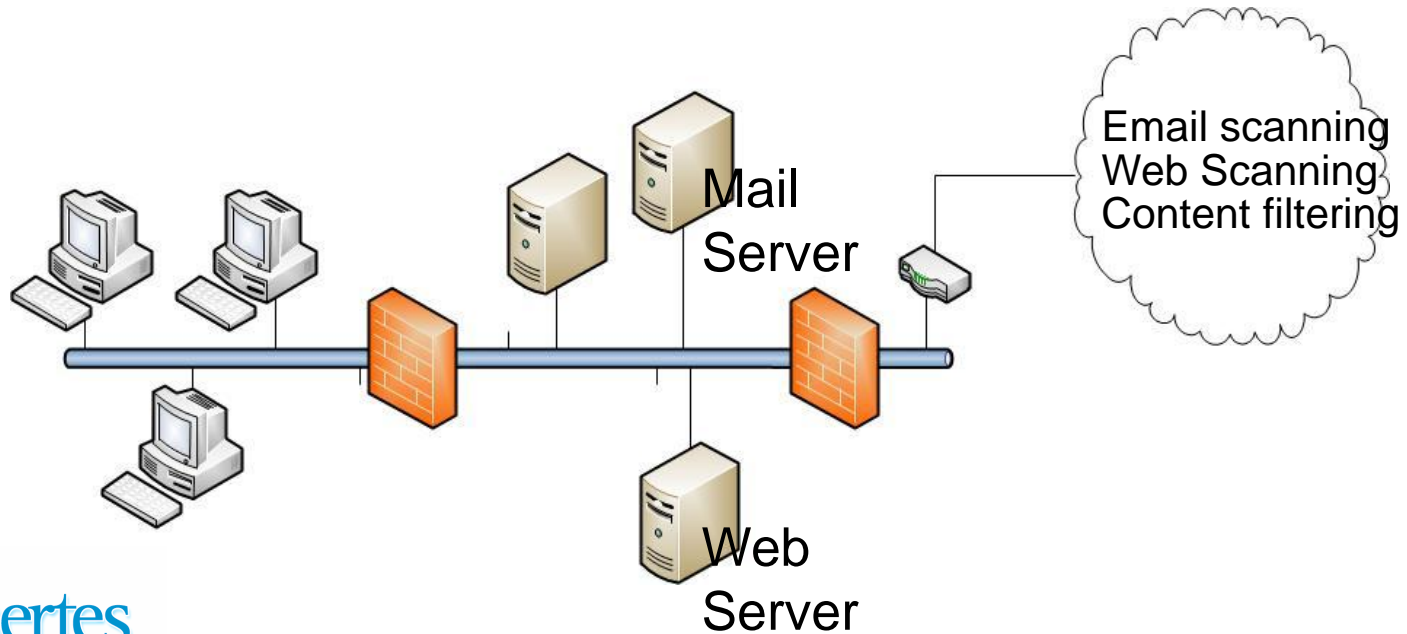|	**Advantage**	**Disadvantage**
Endpoint DLP	▪ Local protection including USB lockout ▪ Offline protection ▪ Support of mobile devices	▪ Installation on every endpoint ▪ Susceptible to malware including rootkits ▪ Can require end-user actions

Different Approaches: Net Appliance DLP

	Advantage	**Disadvantage**
Network Appliance DLP	▪ **Easy install and high performance** ▪ **Protection of all I/O including webmail** ▪ **Auto-discovery is typical**	▪ **No endpoint visibility - USB** ▪ **Cannot address offline users** ▪ **Requires redundancy for full protection**

Internet

Mail Server

Web Server

DLP Network Appliance

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Different Approaches: Cloud-Based DLP

	Advantage	**Disadvantage**
Cloud-based DLP	▪ **No CapEx** ▪ **Supports mobile and teleworkers** ▪ **Usually includes other features including AV and anti-SPAM**	▪ **No endpoint protection - USB** ▪ **Cannot address offline users** ▪ **Sensitive data in the cloud**

Mail Server

Email scanning
Web Scanning
Content filtering

Web Server

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Conclusion and Recommendations

Implementation Success with DLP

- **Approximately 70% of organizations doing DLP rate their projects as very successful and just under 15% rate their projects as being extremely successful**
  - Successful users stress the value of automated discovery and classification tools
  - Vendor support is critical to success – get references
- **All organizations deploying appliance and endpoint solutions rate their DLP project as being very successful**
  - A holistic and comprehensive approach is critical
  - Deploying only one type of solution limits the potential for catching potential leaks
- **Highest success correlates with protection of PII and PHI. Organizations protecting corporate information were less successful**
  - This relates to vendors tuning products to catch standard PII and PHI versus corporate information that varies greatly from company to company

Conclusions

- **DLP is the protection of personally identifiable information (PII), protected health information (PHI) and confidential information**

- **The best approach is a risk-based approach**

- **Haphazard implementation is not much better than no implementation**

- **DLP is not just technology, it requires people (training and ownership) and process (continual improvement)**

- **Highest success is with implementation of multiple technologies**

- **Vendor support is a critical success factor**

Thank You!

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