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STORAGE NETWORKING INDUSTRY ASSOCIATION

EDUCATION

Green Eggs and XAM: A Mandate for Interoperability

Jered Floyd, Permabit, Inc.

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Green Eggs and XAM?



XAM is a new set of standards
for information storage,
affecting:

- storage system vendors,
- application vendors,
 - and, especially, storage administrators and architects.

What is XAM?

What is XAM?

eXtensible Access Method

- New, application-level interfaces (APIs)
- Industry standard, broad vendor participation
- Standard formats for rich metadata
- Metadata for record retention, ILM practices
- Integrated query

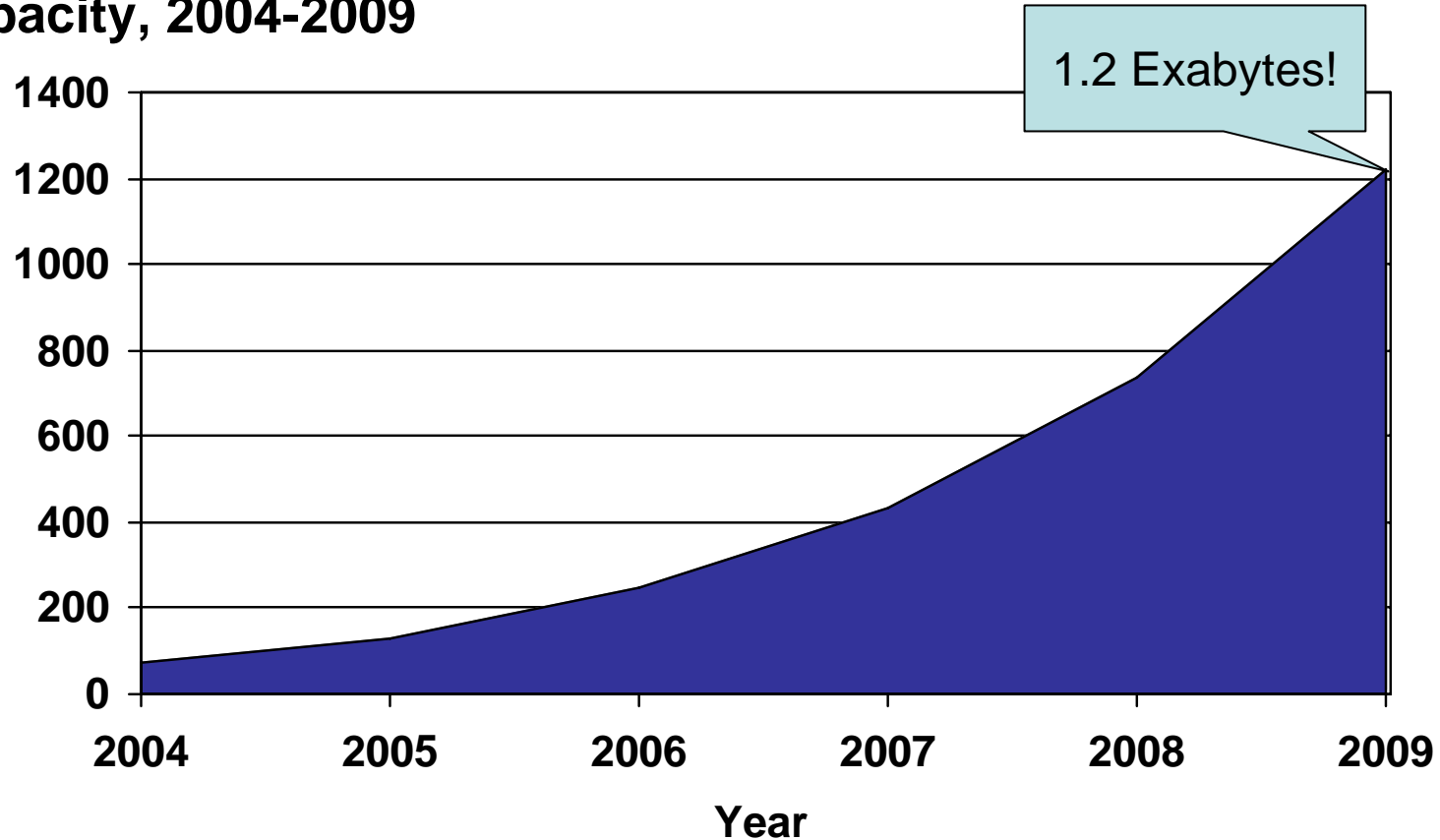
Regulatory Compliance

- Regulations require secure archiving of an increasing volume of records
- Firms face increased scrutiny of records by regulators and the courts

TYPE OF FIRM	REGULATIONS	EXAMPLES OF REGULATED RECORDS
Broker-Dealers	SEC 249.17a-4	Account Record, Broker-Client Email or IM
Transfer Agent	SEC 240.17Ad-7	Items Received
Investment Adviser	SEC 275.204-2	Cash Journal, Adviser-Client Email or IM
Public Companies	Sarbanes-Oxley Act	General Ledgers, Audit Working Papers
Pharma, Biotech	FDA Part 11, GLP, GMP	Clinical Trials Data, Lab Data, Factory Process Documentation
Healthcare	HIPAA	Patient Histories, Medical Images
Energy, Manufacturing	EPA CROMERRR	Electronic Reporting on Emissions, Hazardous Waste

Regulatory Compliance

Worldwide Information Management for Compliance - Capacity, 2004-2009



Source: IDC, March 2005

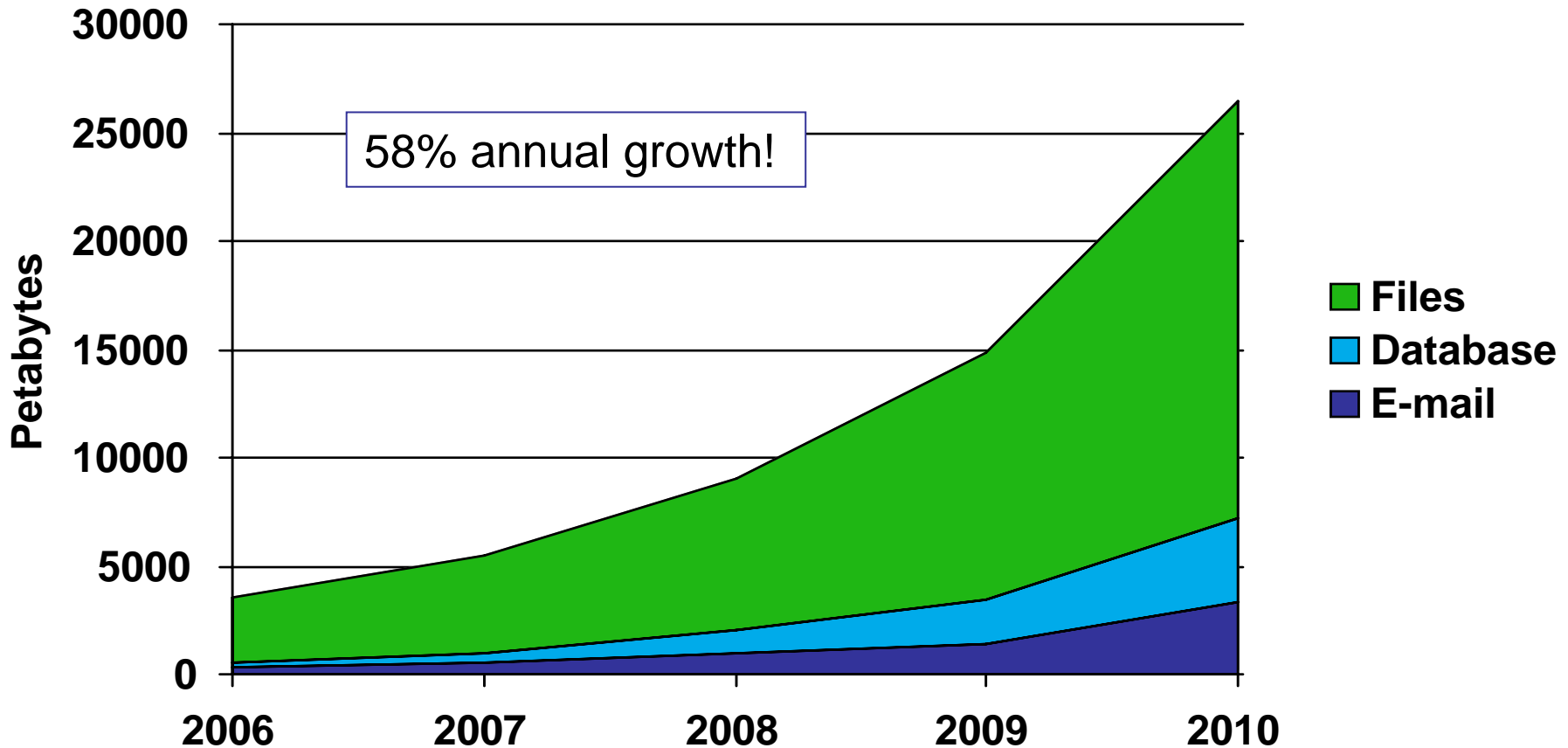
Enterprise Storage Concerns:

- 72% have difficulty accessing archived data
- 80% of end users are adding specific archiving solutions
- 35% indicate fixed content is more than half of their information

Source: Powerfile Survey of 450 IT/Storage Administrators and 350 Partners (Q3/2006)

Archive Content

Worldwide Digital Archive Capacity, 2006-2010



Source: ESG Research Report "Digital Archiving End-User Survey & Market Forecast 2006-2010," January 2006



Metadata, not Storage

- We're finally bringing metadata into storage!
- XAM empowers applications to store true structured records, not just data streams
- This allows storage systems to know how to manage information, act upon it, and help applications work together

Example: Query

Today:

- Critical application "dies"
 - Unsupported on new platform/server
 - Internal failure on end-of-life application
 - Can't interoperate with new front-end sources
 - Application index is corrupted
- Result:
 - Can't find critical information any more!

Example: Query

- What about a search engine?
- Search engines help, but they're not a complete solution
 - Can't understand all application metadata formats
 - Don't allow annotation of additional metadata by other applications

Example: Query

With XAM:

- Critical application "dies"
- XAM Query and Metadata allows:
 - Application to rebuild index, or not keep one in the first place!
 - New application can locate old records
 - New application can interpret structure of old records

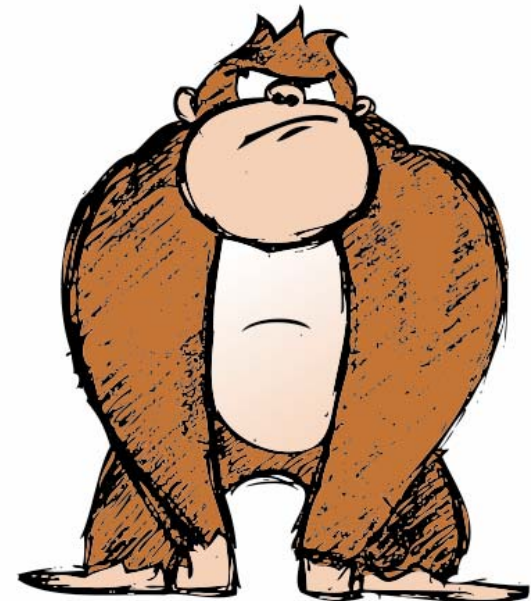
What will XAM do for you?

- **Interoperability**
- **Compliance**
- **ILM Practices**
- **Migration**
- **Discovery**

Interoperability

- XAM-compliant applications will work with XAM storage systems from any vendor
- Rich metadata allows multiple applications to share information easily
- Information can be migrated between XAM systems through standard import/export operations

(Protection against the 800lb gorilla)



- Integrated record retention and disposition metadata
 - Fixed retention periods
 - Event-based retention triggers
 - Retention "hold" due to outside requirements
 - Retention classes
 - Expiration, deletion

- Metadata structure allows for implementation of SNIA ILM practices
 - Extensible metadata allows for external data classification, annotation
 - ILM policy recorded in SNIA-standard fields
 - ILM practices implemented by XAM storage system or third-party

Migration

- XAM Objects -- XSets -- are named by a handle (XUID) that is location independent
- XSets can migrate from media to media, or system to system without XUID change
- Reduces the cost and risk of maintaining long-term logical readability of critical business information

- Query and discovery are integral to the XAM standard
 - Structured metadata query allows SQL-like flexibility in examining typed fields such as numbers and dates
 - Unstructured stream query allows vendor extensibility for full-content search, with annotated information type
- Application independent structured discovery avoids information loss due to application obsolescence

How do I use XAM?

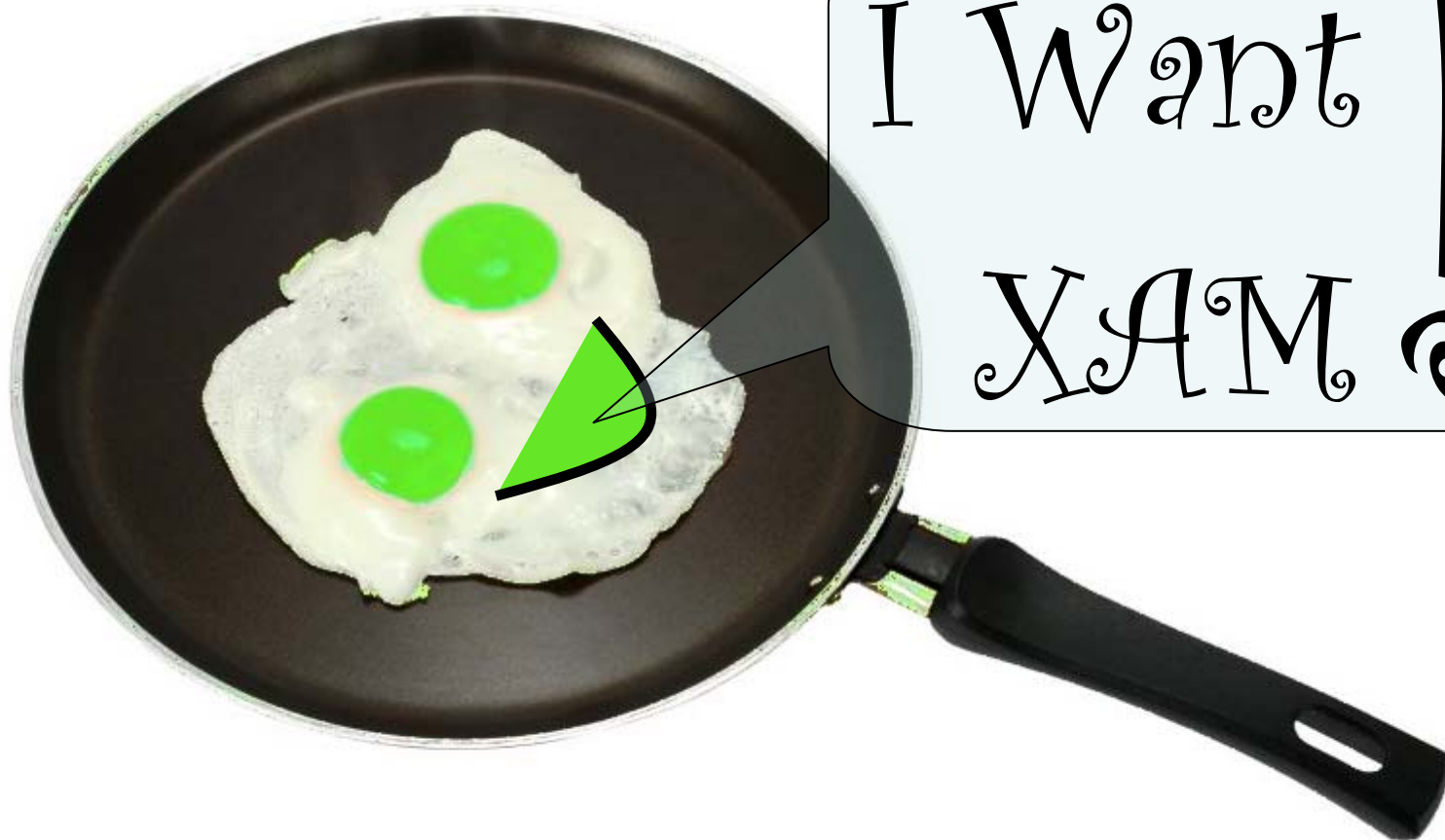
- You don't.
- You *require* it, and your storage and application vendors do!
- You'll now have the flexibility to switch applications and storage systems without expensive and risky migration projects.
- You don't have to switch, but if you find yourself stuck you'll be able to escape.

What to request....

- To your storage and application vendors, always make this request:

"Is your product XAM compliant?"

- Demand that you don't want your data to be controlled by a specific application, you don't want your application to be bound to a specific storage system.
- Tell your vendors, you want to own your information!



Q&A / Feedback

- Please send any questions or comments on this presentation to SNIA: trackvirtualization@snia.org

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Additional affiliations for Jered Floyd include:

**Co-Chair, Long Term Archiving and Compliance Solutions Initiative
(LTACSI),**

Fixed-Content Aware Storage (FCAS) TWG