Enterprise Information Management Solutions

Bob Alioto, Principle Enterprise Architect
Tim Finnegan, Director, State & Local Government
We have ways of making you talk ...
We have ways of making you talk ...

with OpenText Enterprise Information Management (EIM) Solutions
It’s all about improving citizen outcomes and mission results

- Time to information sharing
- Time to citizen response
- Time to decision/action
- Time to compliance
Enablement in the Digital-First World

**SIMPLIFY**
Reduce costs, improve efficiencies and increase effectiveness

**TRANSFORM**
Consolidate and upgrade information and process platforms

**ACCELERATE**
Increase the speed of info delivery and decisions through integrated systems

“Digital leaders outperform their peers in every industry.”

McKinsey&Company
CA Information Security Mandates

Civil Code section 1798.29, sub-sections (e, f) specifically require **notification to individuals in breaches** of unencrypted computerized **personal information** of a specified type (which is referred to as “notice-triggering” information).

The IPA broadly defines **personal information** in Civil Code section 1798.3 as "any information that is maintained by the agency that identifies or describes an individual, including, but not limited to, his or her name, social security number, physical description, home address, home telephone number..."
CA Information Security Mandates

Agencies must ensure that their risk management practices and ongoing assessments and reviews include evaluations of the adequacy of controls implemented to safeguard personal information held by the agency, and its contractors… (SAM sections 5305 to 5305.2)

National Institute of Standards and Technology (NIST) Cybersecurity Framework - a set of industry standards and best practices to help organizations manage cybersecurity risks. Created through collaboration between government and the private sector to address and manage cybersecurity risk in a cost-effective way…
Background
## NIST Framework
### Identifiers / Functions

<table>
<thead>
<tr>
<th>Function Unique Identifier</th>
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Information Security Challenge …

Typically >80% of IT Infrastructure is consumed by *Dynamic* Information
OpenText Enterprise Information Management
A balanced, standards based approach to Security & Governance challenges

Operational Processes & Systems
- Citizen / Supplier / Employee Engagement
- Tourism & Business Enablement
- Public Sector Accounting
- Social Services / Medical / Fire / Police
- Grants Management & Government Programs
- Infrastructure & Asset Management
- Tax and Revenue Management
- Government Operations Management & Support

Data Analytics & Visualization
Content Analytics (unstructured information)
Enterprise Content Management

Process Governance
- RBDMS & DW
- Hadoop
- SAP, Oracle ...
- Social Media
- IoT
- CMIS / Other ECM
- SharePoint / Email
- OpenText ECM
- File Shares
Examples of OpenText in the DoD ecosystem …

F-35 Supply Chain & Operations Support / highly secure solutions

The Workload Management System (WMS) is an integrated OpenText based ECM solution providing comprehensive document management and reporting for aircraft assets of NAVAIR, JSF Command and the Fleet Readiness Centers.

**US DLA** employs a comprehensive ECM solution set for compliance, cutting the costs of audits and establishing transparent accountability for financial business processes (e.g. Enterprise Asset Management, Procurement, etc.)

All of the various LMCO engineering components, training, design, support… use OpenText ECM to manage the contracting, specs, and other documentation deliverables.

Supply Chain Operations efficiency gains with SAP/OT integrated solutions:

- **Contracting Process**
  - Reduced research time from weeks to hours
  - Major reduction in supply costs
Information Profiling …
NIST Context

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Getting started … Information Profiling

Accelerate *time to Governance & Security* using Content Analytics based tools to profile your information, then apply appropriate security rules from Open Data to sensitive content.
Highlights:

- **CMIS gateway** provides a common CMIS interface to repositories (Atompub binding).
- **Structured data can be utilized as Controlled Vocabularies**
- Authorization Service gives a set based evaluation of what the user is allowed to see.
Standards based Metadata Model

- Content Management Interoperability Services (CMIS) is an open standard that allows different content management systems to interoperate.
- CMIS provides a common metadata model covering typed files and folders with generic properties that can be set or read. The model is based on common architectures of document management systems.
Semantic Search Engine:
Apache SOLR 4.x in a Nutshell

- Multiple search indices, indexes items in a global unified index w/ support for multiple languages.
- Advanced Full-Text search capabilities, faceted search and filtering.
- Optimized for high volume, linearly scalable, auto index replication, auto failover and recovery for near real-time indexing.
- Comprehensive HTML administration interfaces.
Profiling Information with enhanced Metadata based on Content Analytics capabilities, programming not required...

System Metadata (Structural & Security description)

- **Title:** Non-disclosure agreement
- **Creator:** Dick Loudon
- **Publisher:** Legal Department
- **Contributors:** George Utley, Michael Harris
- **Date:** 2008-05-23
- **Type:** Text File
- **Format:** PDF
- **Size:** 583 kb
- **File Path:** z:/HR_folder

Natural Language based Metadata (text-mining)

- **Concepts:**
  - non-disclosure agreement
  - confidential information
  - business relationship
  - source codes
  - agreement
  - breach

- **Entities:**
  - **Persons:** Robert Hartley, Jerry Robinson
  - **Places:** London, United Kingdom, Montreal, Quebec
  - **Organizations:** GE = General Electric
  - **Materials & Equipment:** Electric Pump, etc.

- **Categories:**
  - Litigation Support
  - Software & Computer Services
  - Research and Development
Information Profile view powered by Metadata …
Drill down with Metadata & Search

*In Place Access* - Migration not required!
**NIST Process Aligned ... Cybersecurity Incident Management**

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Insider Threat Detection …
Triggers Cybersecurity Incident Workspace

- Proactively monitor anomalous Content access & usage (view, copy, print, download, etc.)
- Analyze / respond to alerts via tools which maintain context of concerns, close gaps quickly
Cybersecurity Incident Workspace
Cyberspace: Situational Awareness / Reporting / Knowledge Management

Detect
Anomalies & Events

Respond
Analysis & Mitigate

Recover
Improve / Communicate

Close
Incident

OpenText Enterprise Information Management

- Attack methodology
- Patterns and attack trends
- Who is being attacked
- Geo-political and economic context of attack
- Attackers intent?
- Likely actor or actors
- Effectiveness of attack
- Attacker’s likely next step
- Collection requirements to better understand attack and its implications
- Brainstorm options on how to mitigate attacker’s next step
- Baseline Analysis Methodologies
From Incident Management to Knowledge ...
Group / Publish based on common Metadata & Full Text Search

Detect
Anomalies & Events

Respond
Analysis & Mitigate

Recover
Improve / Communicate

Close
Incident

Knowledge is power, knowledge shared is power multiplied.
Robert Noyce
Consistency + Compliance + COTS Integration
Securely manage Information across Processes & Solutions

Enterprise Content Management

- Document Management
- Collaboration & Social Media
- Capture
- Workflow
- Content Access
- Records Management
- Archiving
- ...

Operational Processes

ERP / APPS + ECM

- Workspaces natively extend ERP processes with ECM
  - Deep connection with ERP data, structures, roles and permissions
  - Seamless integration with various Application UIs
  - ERP and ECM always “in-sync”

Business Processes & ECM

- ECM for Project Management
- … Supply Chain
- … Procure to Pay …
- … Asset Management …
- … SRM / CRM
- Plant & Equipment Maintenance
- …

RBDMS & DW
SAP, Oracle …
Hadoop
Social Media
IoT
CMIS / Other ECM
SharePoint / Email
OpenText ECM
File Shares

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The New Reality: Hybrid Infrastructure
Securely Accessed via Mobile, WEB & Client based Apps

Unified with OpenText EIM / flexible provisioning of Solutions to meet your mission needs
Case Study:
US Department of Interior
Department of the Interior

- Cabinet level agency
- 14 Bureau Offices
- Employ’s ~70,000 / 280,000 volunteers
- Manages $16.8B operating budget
- Manages 500 million acres of surface land
- Manages 479 dams and 348 reservoirs
- Supplies 30% of the nation's energy production
- Produce 55,000 different maps each year
- Protects ~500 million recreational visitors per year
eEDRMS Program Vision

Provide the Department of the Interior with a single cohesive integrated information management program designed to support and manage departmental records related to email, documents, and content in the Cloud
eERDMS Program Objectives

- Capture all:
  - Unified messaging journaled email records
  - Mobile content records
  - Lines of business records (SAP, etc.)
  - Business system records

- Develop:
  - Super bucket records schedule
  - Online automated litigation hold process

- Support:
  - Freedom of Information Act requests
  - Litigation early case assessment needs
  - Congressional and Department inquiries
Big Data, Big Business

- 600+ million emails a year
  - 70 Million in Jan 2015
  - 100 Million Estimated for February 2015
  - 1.2B emails received
  - 15.5M records produced a day
- 22 Billion data points generated
- 5,500+ FOIA cases a year
- 200+ ongoing litigation cases
- 100+ million printed pages a year
- 4,100+ mobile devices
- 15,000 Fax devices
- Exabyte of electronic content
Auto-Classification Process

- System uses exemplars of each file node to train system to recognize patterns, tone, etc.
- Find “like” (similar) feature used to gather additional exemplars
- Use exemplars to create a model
- Precision and recall numbers need to be 75% or better
- Refine model with additional exemplars over time
- Auto-classification run on incoming email content to assign retention periods.
US Dept of Interior represents *Best Practice* in Information Governance & Compliance

- Cloud based ECM/RM
- Content Sources
  - Goggle Email
  - File System
  - CMIS or API extensions

- Solution handles up to 3M Emails a day + attachments
  - Outstanding Email user experience
  - Department-wide; 90,000 users
  - **Auto-categorized (auto-classified) with Content Analytics**
  - Consolidating information across 14 Bureaus—all file formats
    - photos, videos, CAD drawings, GPS, maps, documents, social media…
  - Availability = 2400 offices/4100 mobile devices and counting
  - Supports Investigations, Audit, Legal and Compliance
Achieving Information Security Readiness …

• Efficiently profile your digital Information, with the Content Analytics machine doing the heavy lifting

• Once profiled, begin iterative processes to close Information Security & Discovery gaps based on needs assessments

• Proceed with Governance initiatives, guided by priorities derived from Information Profiles
  • Cyber Security alignment / insider threat risk reduction
  • Enterprise Records Management / Paper to Digital
  • Financial Transparency / Process Optimization
  • Solution consolidations / Infrastructure Optimization
  • Enterprise Performance: Governance, Risk & Compliance
• Wrap up
  • Q&A
  • Action Items

• Thanks!
OpenText

NASDAQ: OTEX, TSX: OTC

#1 EIM

$1.6 Billion Global Revenue

80k Customers

20 years of Innovation

8000 # of Employees

140 Offices around the world

550k Trading Partners

16 Billion # of Transactions
Identify Information Governance & Security gaps across your Enterprise Solutions

<table>
<thead>
<tr>
<th>Content Analytics capabilities embedded within Application UI’s or standalone</th>
<th>UI Components</th>
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<tbody>
<tr>
<td>Highly scalable Search and Analysis, helps spot obtuse security &amp; governance gaps, and more …</td>
<td>Search &amp; Analytics Services</td>
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<tr>
<td>Standards based integration, utilize source system Security (where desired)</td>
<td>Connectors &amp; Indexing Services</td>
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<tr>
<td>Text mining metadata on people, organizations, suppliers, operations, and structured information</td>
<td>Platform Services</td>
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<tr>
<td>Repository Virtualization</td>
<td>Repository &amp; CMIS Services</td>
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- RBDMS & DW
- Hadoop
- SAP, Oracle …
- Social Media
- IoT
- CMIS / Other ECM
- SharePoint / Email
- OpenText ECM
- File Shares
OpenText EIM Solution Framework
Balanced approach to Structured and Unstructured Content

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Process Governance

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- OpenText ECM
- File Shares