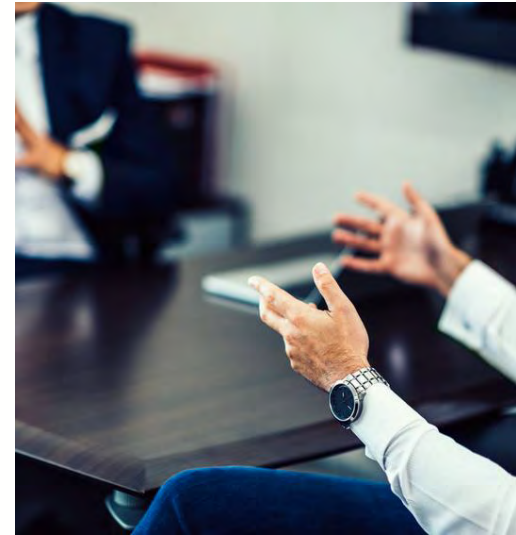


GridBank Overview

SHAHBA ALI

Robert Wilhelm



TARMIN
Where Data Defines Value.

 **VIIICCO**

Tarmin. Where Data Defines Value.



Innovative Solutions

- GridBank Data Management Platform
Delivering Data Defined Infrastructure
- Backup Optimization
 - Enterprise Information Archiving
 - Data Warehousing & Big Data Analytics



Corporate Information

- Established in 2007
- World Class Leadership
- Corporate HQ: Boston
- Operations: Boston, London & Johannesburg
- Global Enterprise Customers



The Problem: Information Overload



CEO & CFO

- Keep costs under control
- Gain customer insights
- Drive more revenue



Legal & Business

- Compliance to regulations
- Enforcement of policies
- Legal discovery requests

Tarmin Value Proposition



Remove Silos & Improve Efficiency

With distributed deduplication, compression & replication data volumes are substantially reduced, data repositories are unified, silos removed & storage utilization improved



Satisfy Compliance & Reduce Risks

GridBank provides an information governance framework to help organizations meet compliance regulations for retention & disposal & to mitigate data related risk



Discovery & Analytics for Insights

GridBank's distributed metadata repository enables enterprise search & discovery & offers integrated business intelligence & big data analytics tools for actionable insights



Data Centric Competitive Advantage

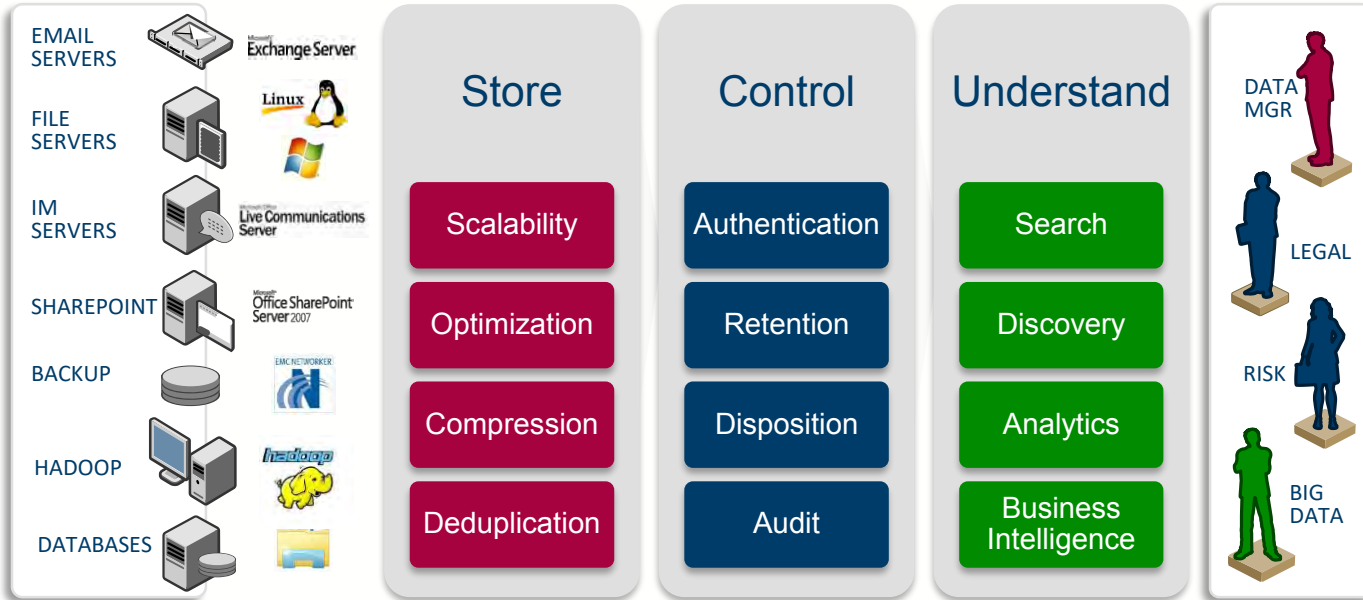
GridBank leverages media independent, state of the art technology to deliver massive scalability using enterprise object storage for a sustainable competitive advantage



A Single Data Lake for Big Data

Producers

Consumers



GridBank Appliance Packaged Offering



GridBank Enterprise

- Designed for Massive Enterprise Workloads
- Optimized for Performance/ Capacity
- Scales in a Linear & Predictable Fashion



GridBank for Backup

- Significantly Reduces Backup Costs
- Faster Backup Data Accessibility
- Integrated Search & Data Governance



GridBank for Archiving

- Data Governance for Compliance Mandates
- Integrated Data Security & Retention Mgmt.
- Granular Legal Hold & e-Discovery



GridBank for Warehousing

- Scalable Storage for Data Growth
- Store, Index & Manage Large Data Volumes
- Integrated with Big Data Analytics Solutions

Business Value

GridBank Value for Businesses

- Reduce Capital (CAPEX) & Operational (OPEX) Expenditure
- Risk Management & Data Compliance
- Monetize Data to Increase Revenue IT Efficiencies
- IT Efficiencies, Transition to Cloud, Big Data & Analytics

Data Center Benefits

Reduces
TCO

Enhances
Operational
Efficiencies

Business Management

Enforces
Compliance

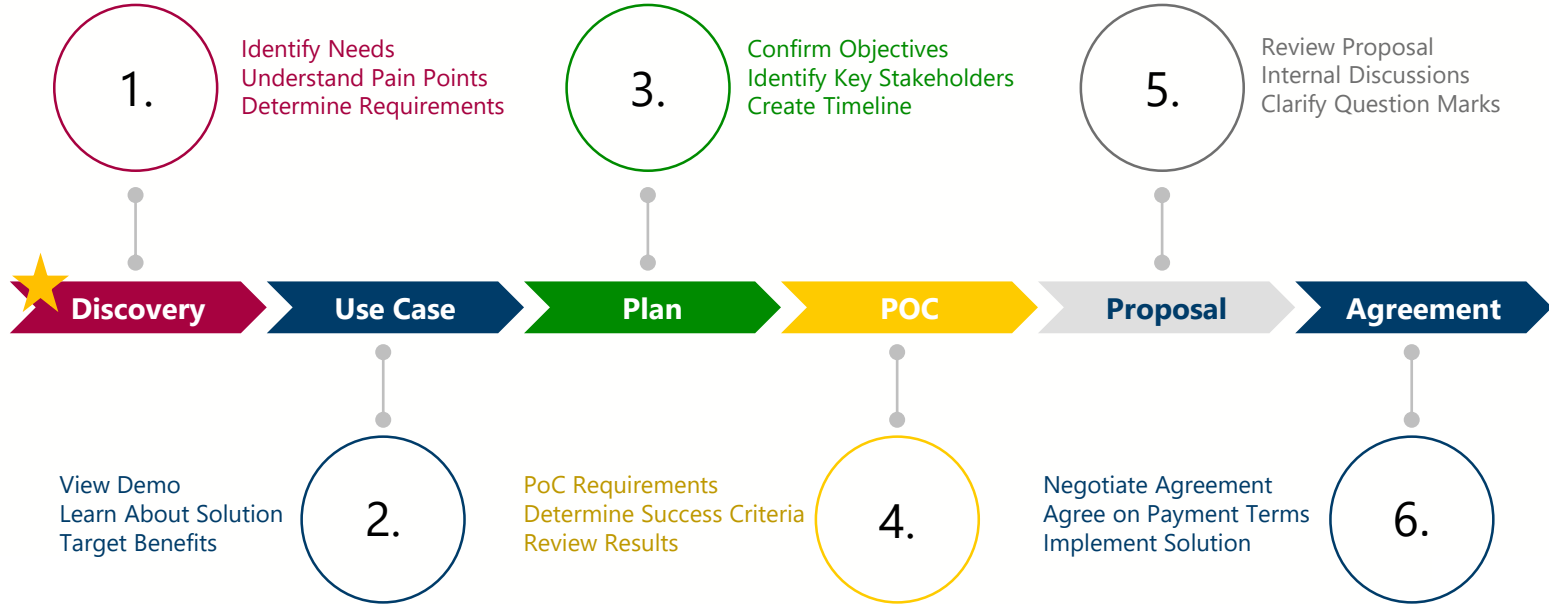
Reduces
Business Risk

Revenue Efficiencies

Improves Business
Agility

Drives Revenue
Growth

Next Steps



Tarmin Awards & Recognition

TARMIN
Where Data Defines Value.

The grid contains the following logos from top-left to bottom-right:

- CorporateLiveWire **INNOVATION & EXCELLENCE AWARDS 2017** - SHORTLISTED -
- 2014 WINNER **DCS awards**
- THE GOLDEN BRIDGE AWARDS** GOLD **BEST 2014** BUSINESS WORLD
- cfi.co OIL & GAS AWARDS 2014**
- datacentre solutions awards 2013 Winner**
- Gartner. 2013 CoolVendor**
- WORLD FINANCE 100**
- CV 2016 Technology Innovator Awards** MAGAZINE
- CIO 100 HONOREE 2014**
- CRN EMERGING VENDORS 2015**
- 2016 EmTech EXCELLENCE AWARDS** WINNER
- CRN 5 STAR PARTNER PROGRAM WINNER 2014**
- 2013 Winner** (Golden Globe award)
- STORAGE AWARDS THE STORIES XI WINNER**

TARMIN IS PROUD OF THE AWARDS AND RECOGNITIONS IT HAS RECEIVED FOR ITS COMPANY PERFORMANCE, INNOVATIVE TECHNOLOGY AND DISRUPTIVE DATA CENTRIC APPROACH.

Market Validation - Analysts



“Tarmin employs a unique approach by using different metadata attributes...to enable flexibility...across an organization.”

ALAN DAYLEY
GARTNER



“Amidst today’s tsunami of accelerated growth and the massive scale of data, a data-centric approach to storage can greatly reduce storage costs.”

JOHN WEBSTER
GIGAOM RESEARCH



“Traditional storage is a cost center...Data Defined Storage technology like GridBank is to turn data storage from a cost center into a profit center.”

ARUN TANEJA
TANEJA GROUP

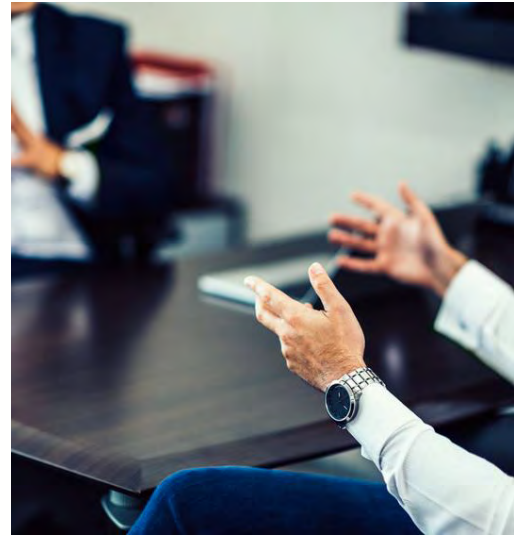


“IDC forecasts...the total market for scale-out unstructured data storage, such as data-defined storage, will be approximately \$34.6 billion in revenue.”

ASHISH NADKARNI
IDC

Thank You

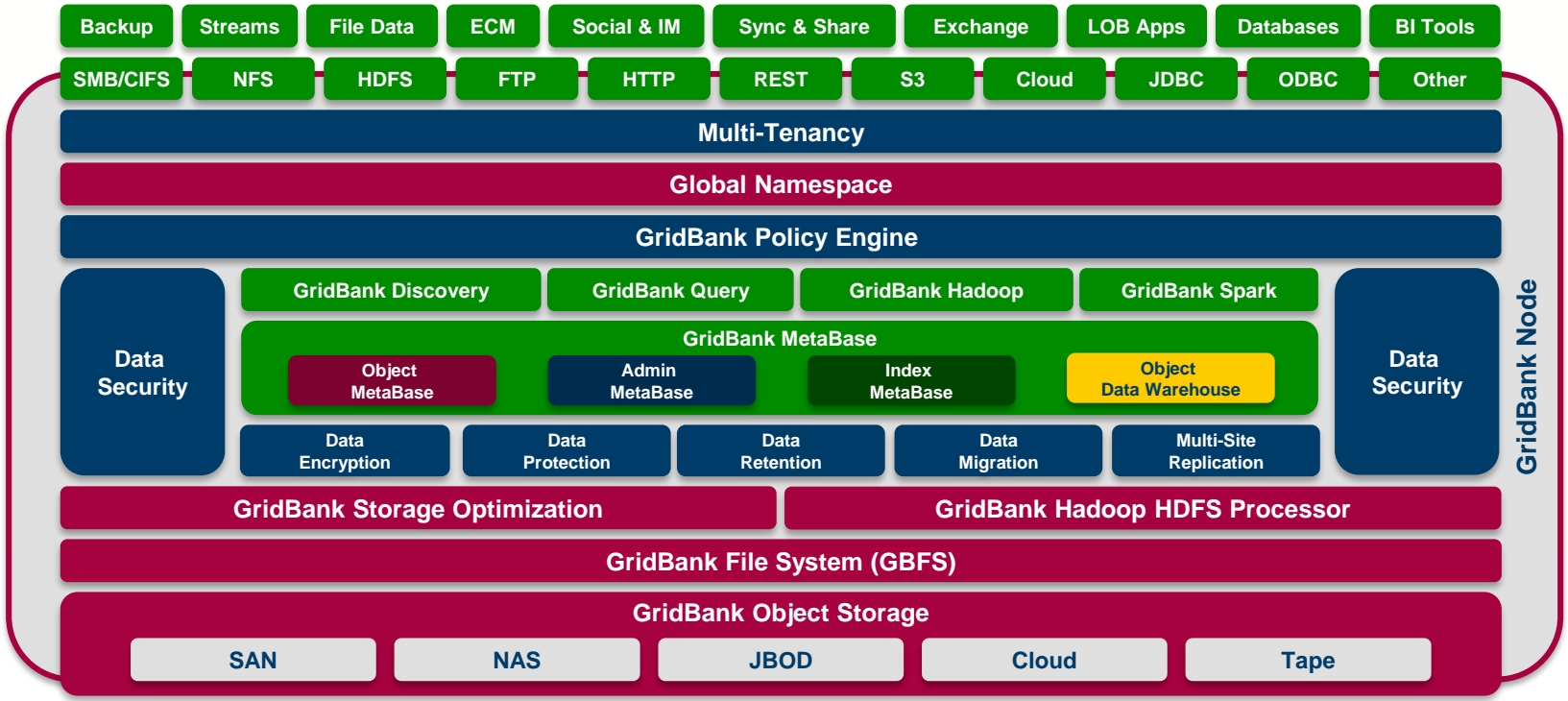
QUESTIONS & ANSWERS



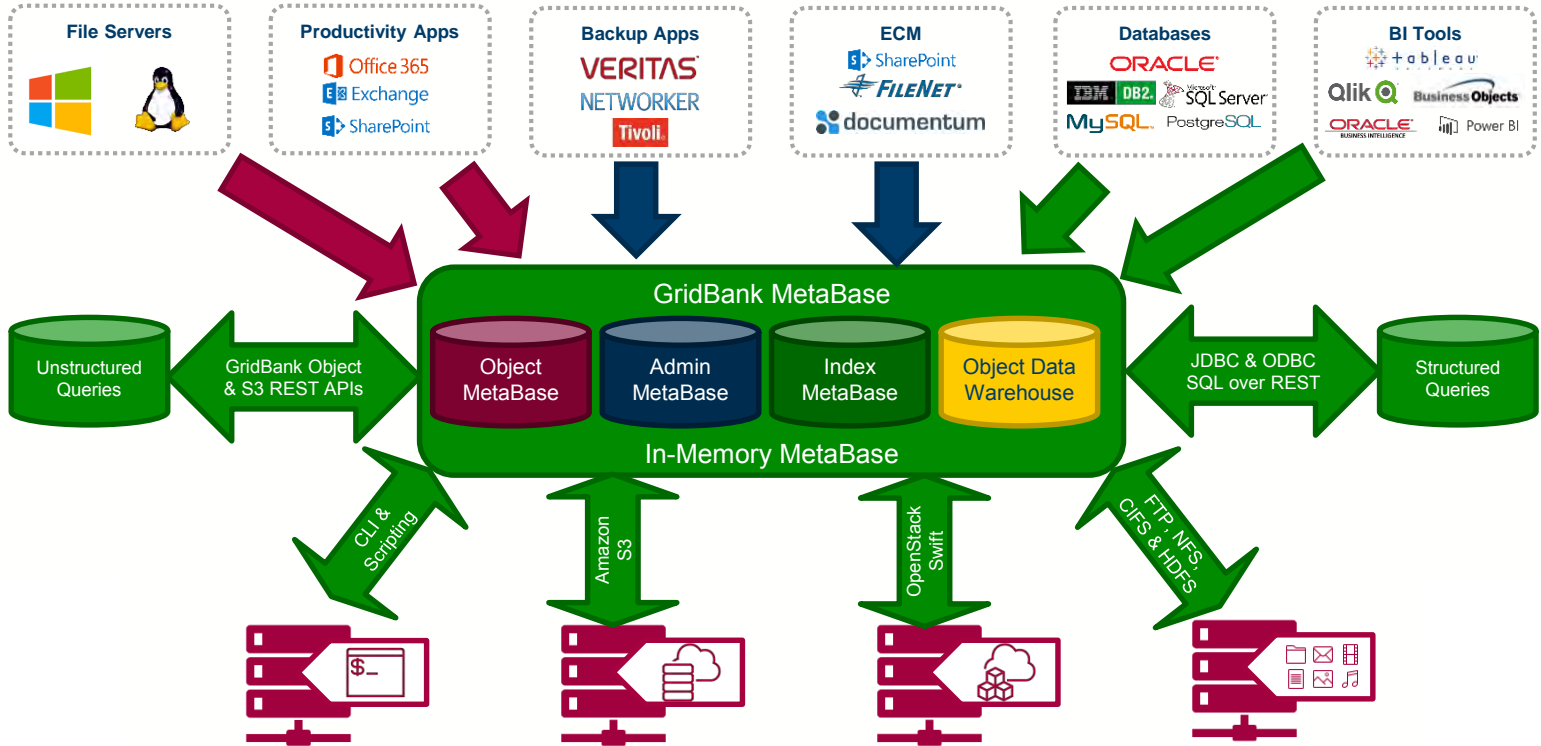
TARMIN
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GridBank Solution Stack



GridBank API Integrations



Backup Challenges

Windows & Objectives

- Growth rates exceed initial expectations requiring driving fork lift upgrades
- Backup windows, recovery time & point objectives shrinking as data volumes grow

Data Governance

- Secure, audited & encrypted backup & recovery to reduce data risk
- Management of retention & disposal of data in alignment with regulatory mandates

Search & Discovery

- Search & discovery of backed up data across range of media & systems
- Timely responses to e-Discovery requests & legal hold during litigation proceedings

Traditional Media

- Magnetic tape corruption leads to recovery reliability issues & failure rate
- Restore issues due to re-cataloguing, offsite shipping, reader availability or loss of tapes

Disaster Recovery

- Off-site storage, remote offices &/or implementing new tech non-disruptively
- Unpredictable costs & resource consumption for remote/cloud backup-as-a-service tech

Backup Complexity

- Mgmt of multiple backup sources, apps & systems can become cumbersome
- Increasingly mobile end points with business data to backup & manage

Smart Backup Content Indexing

Industry's First Scale-Out Backup Appliance with Content Indexing

- Precision engineered over 18 month in close collaboration with Dell
- Massively scalable grid-based system that protects, retains & inspects backup data
- High performance deduplicating backup target significantly reduces backup windows
- Uniquely extracts backup files & indexes content metadata automatically for e-Discovery

Integrated Information Governance Framework

- Gain information governance framework functionalities fully integrated into backup target
- Policy-driven access, retention & disposal of backups to meet compliance mandates
- Fully integrated with EMC Networker, Symantec NetBackup, IBM Tivoli, Veeam, etc

Self-Service Instant On-Demand Search-Based Recovery

- Full text content indexing of over 550+ industry file types
- Simple, fast rehydration & restoration of deleted backup files for authorized end users
- Instant search of backups seamlessly bringing archiving benefits to backup infrastructure



GridBank Backup Appliance



Global Deduplication Backup Target

- Distributed Deduplicated & Compression
- Highly Available Online Backup Data Access
- High Performance Enterprise Object Storage



Integrated Information Governance

- Policy-Driven Data Retention & Disposal
- Integrated Data Security & Encryption
- Scale Out Multi-Site Data Protection



Search & Discovery

- Deep Metadata Content Inspection
- Granular E-Discovery & Legal Hold Functionality
- Data In-Place Management & Analytics

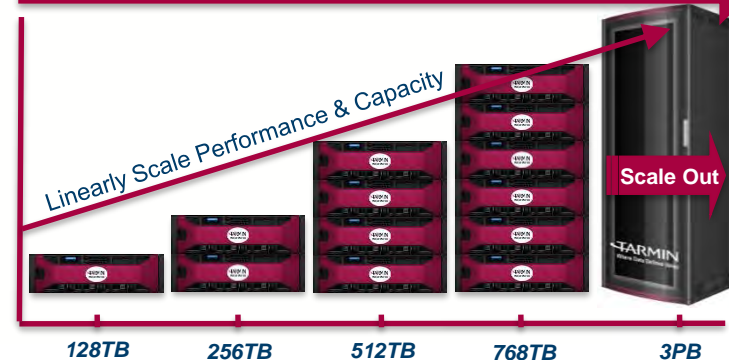


Integrated Grid Approach

- Massively Scalable Building Block Solution
- Dynamically Add Nodes for Capacity/Performance
- Single Consolidated Data View Across Entire Grid



Scale As You Grow



Backup Appliance Object Backup

Scale Out Model

- Scale-as-you-grow building block approach up to multi-PB with distributed deduplication
- Dynamically add capacity or compute to meet RTO/RPO as data grows

Availability & Integrity

- High performance, on-demand access to backups for highly available, reliable recovery
- Periodic data scrubbing for assured data integrity

Governance & Security

- Policy-driven retention & governance within traditional backup infrastructure
- Encryption, authentication & full audit trail of search, access, modification & deletion

Distributed Recovery

- Designed for distributed environments with full cloud integration
- Full recovery with multi-site functionality & predictable cost model

Search & Discovery

- Inspects content & metadata of backups for search, e-Discovery, legal hold & other policies
- Instant on-demand self-service search-driven restore of files without the need for backup software

Backup App Integration

- Single management console for all backup data with optional restores from existing backup software
- Use Netbackup, Networker, BackupExec, Veeam, or Tivoli for Backup

Operational & Governance Benefits

Scale Out Architecture

- Scale-As-You-Grow for Backup Windows & RPO/RTO
- Distributed Deduplication for 90%+ Volume Reduction

Availability & Integrity

- High Availability Backup Repositories & Faster Recovery
- Periodic Data Scrubbing to Ensure Data Integrity

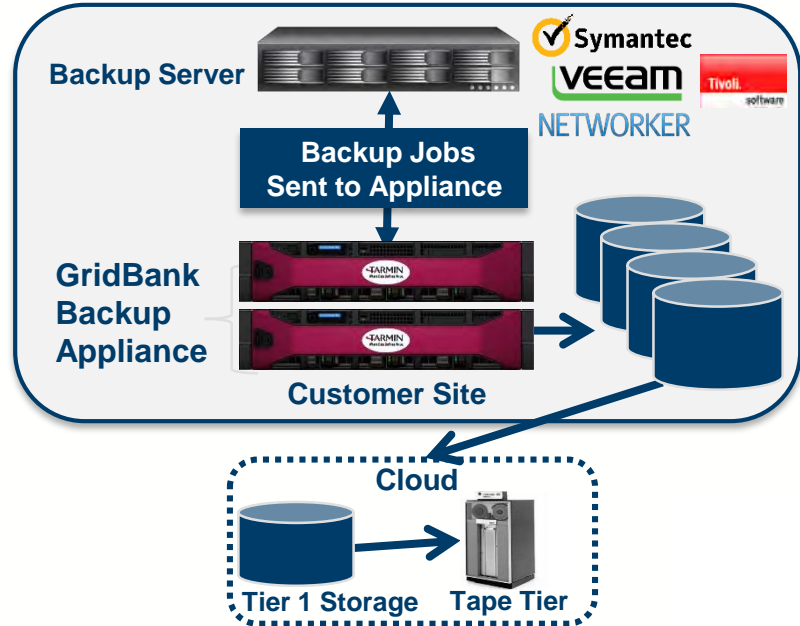
Governance & Security

- Info Gov. Framework with Authentication & Encryption
- Meet Compliance Mandates via Retention & Disposal

Distributed Recovery

- Multi-Site Protection for Fail Safe Recovery & Availability
- Cloud Integration Provides Easy, Low Cost Replica

Hybrid Cloud



Productivity Benefits



Advanced Search

- **Search** backups, results & history
- **Apply** legal holds for litigations
- **Discover** by date, types & metadata
- **Boolean** expression & support
- **Advance** queries & customization



Backup Management

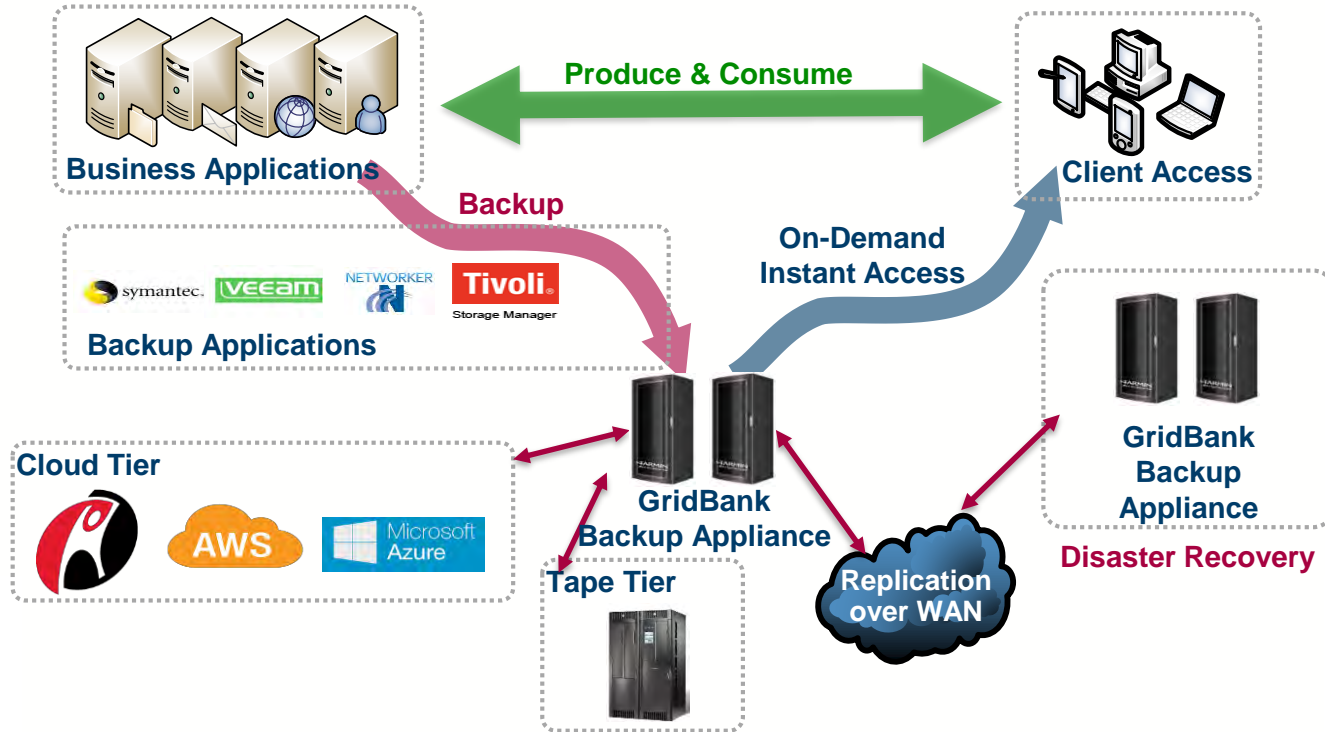
- **Optimized** backup data performance
- **Backup** search history mgmt.
- **Auto-convert** backup results
- Related backup items **analysis**
- Full object level **audit** on all datasets



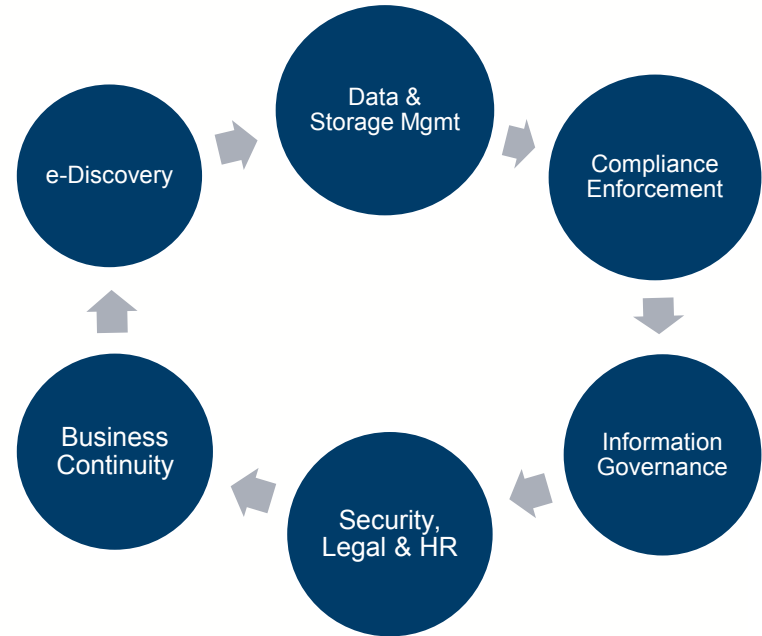
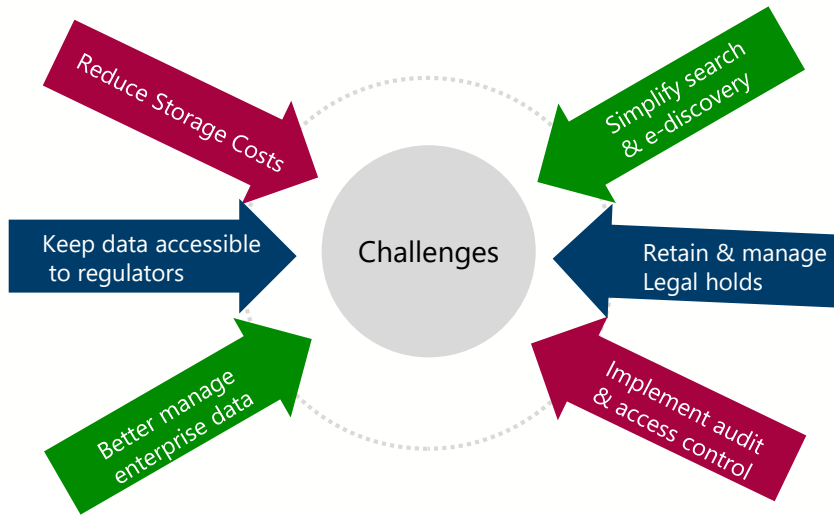
Comprehensive CLI

- **Available** on Linux & Windows
- **10min install** & realm setup
- Policy **management** & support for CLI
- Grid **administration** & creation
- Backup **status**, jobs, stages & other info

GB6000 Ex. Deployment Topography



Challenges & Possibilities



Archiving Challenges



Compliance Requirements

Financial

- SOX & SEC Rule 17a-3 & 4
- NASD 3010 & 3110
- Gramm-Leach-Bliley Act
- Financial Institution Privacy Protection Act of 2001 & 2003

Health

- HIPAA
- Emergency Med. Treatment & Labor Act
- PPACA
- Protection of Pers. Info Act

Government

- USA Patriot Act 2001
- OSHA
- Federal Info. Sec. Mgmt. Act
- European Union Data Protection Directive

Telecommunications

- Telecomms. Act of 1996
- Privacy & Electronic Communication Regulation
- Communication Act of 1934
- Electronic Comms. Act 36



GridBank for Risk Control

Multi-Site Replication

Site-to-site Replication, Regional Policy Execution
High Availability Access For Disaster Prevention

Data Security & Integrity

Prevent Unauthorized Access Across Any Device
Tamper-Proof Encrypted Storage

Governance & Compliance

SOX & SEC Compliant Retention
Legal Hold for Litigation Proceedings

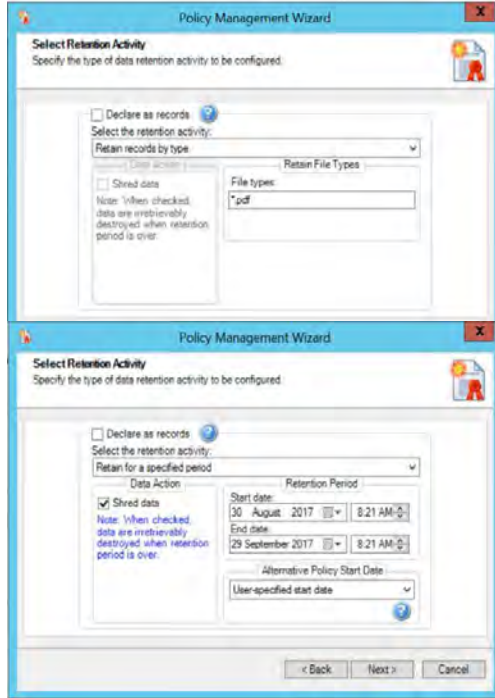
Reputation & Conduct Risk

FCA & SEC Trust, Transparency & Governance
Global Control for Risk Policy

Audit & Logs

Real-Time & Historical Audit Records
Object Insertion, Access, Deletion Audit

Retention, Disposal & Auditing



Retention

- Set retention processes based on specific policies
- Retain based on file type, time, date, size, industry, etc.

Disposal

- Set policies to dispose data based on specified criteria
- Option to Never Dispose prevents data removal

Auditing

- Compliance configuration, changes made by UI admins
- Provides data audit trail & data access reading actions

Data Storage & Management Benefits

Scale-Out Storage

Linear Scalability

Global Namespace

Distributed File System

Data Cost Reduction

Eliminate Data Silos

Distributed Deduplication

Tiering to Lower Cost Media

Reduce Mgmt. Costs

Consolidate to Unified View

Single Mgmt. Console

Open Protocol Access

Legal Hold, Search, Discovery & Analytics



Legal Preparedness

- Accelerate legal discovery & HR enquiries
- Enforce object preservation, legal hold & data use policies



Discovery & Analytics

- Search by custodian, keyword, phrase & date
- Discover & monitor sensitive content via data analytics

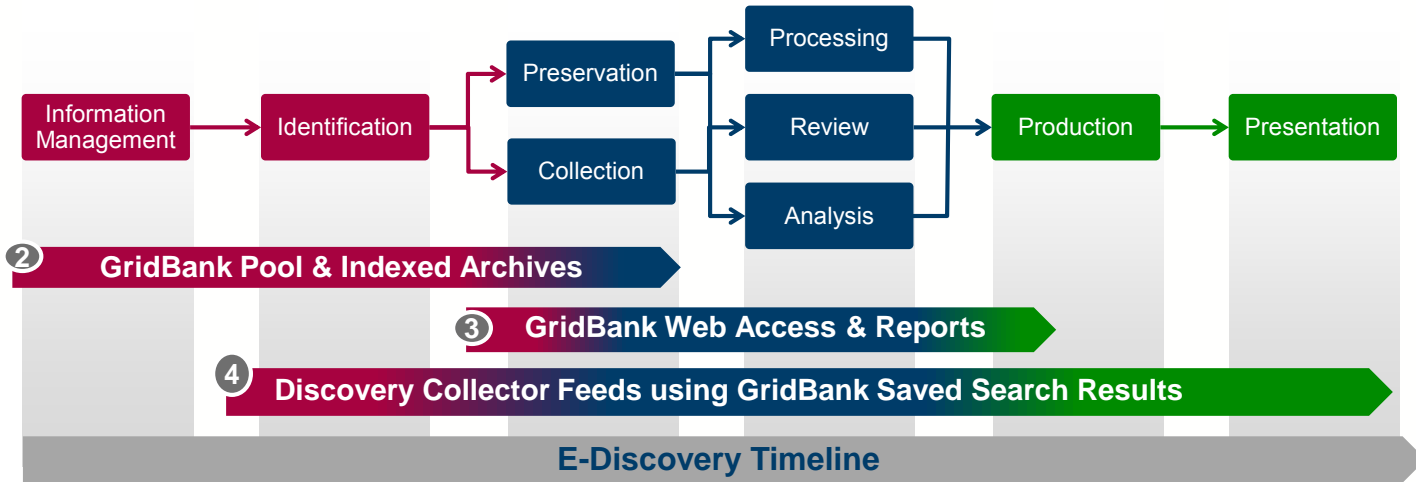


End User Experience

- Transparent & CIFS & NFS Access via File Area Network
- Archive, restore, search, preview & delete data



GridBank E-Discovery (EDRM)



Customer Data Challenges

Reporting Challenges

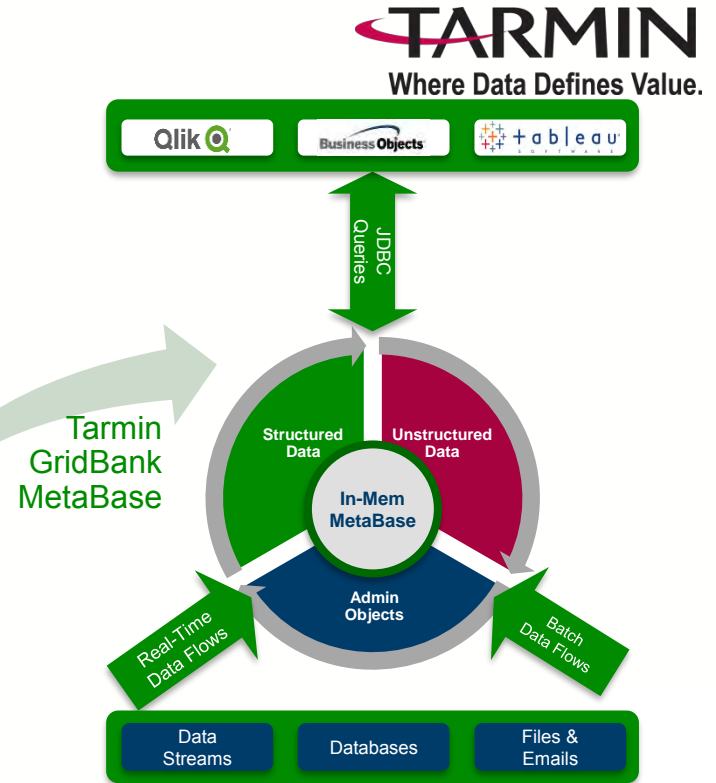
- Lack of executive reporting & drill down capabilities
- Multiple data sources impacting report inaccuracies across the data
- Lack of centralized reporting, analytics & document management

Data Challenges

- Lack of data warehouse & fully converged data
- Isolated databases, files, emails, social & other content result in data silos
- Inadequate query performance, search & e-discovery capabilities

Governance Challenges

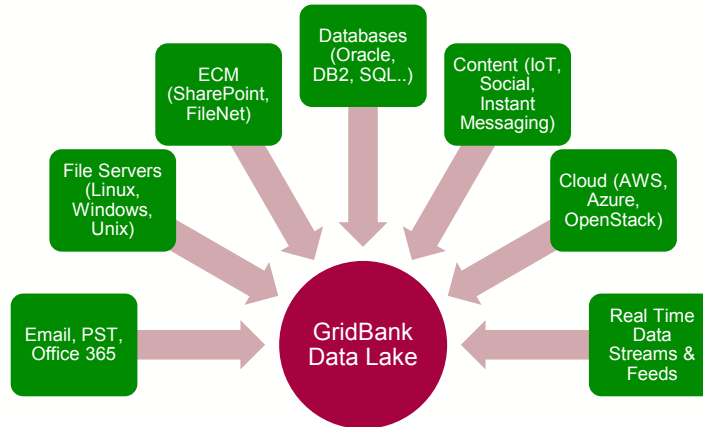
- Lack of automated data retention & disposal
- Risk associated with non-compliance for industry specific regulations
- Fragmented security & access controls across the entire data landscape



Information Warehousing Platform

Data Warehousing Platform

- Takes a single & comprehensive data centric approach
- Object warehouse for databases, files, emails & content
- A unified data store from a variety of sources & types



Content & Knowledge Discovery

Capabilities

- Consolidated Data Warehousing
- Enables Automated Discovery
- Integrated with Reporting Tools

Content Discovery

Consolidate Information Resources

Find & Utilize Historical Data

Customer Dispute Management

Retain & Discover Content

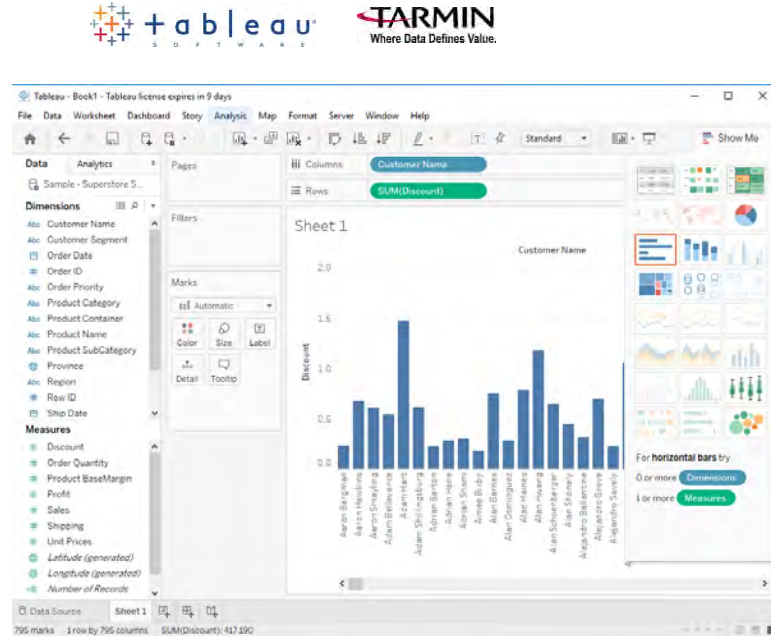
Knowledge Discovery

Create Executive & Consolidated Reports

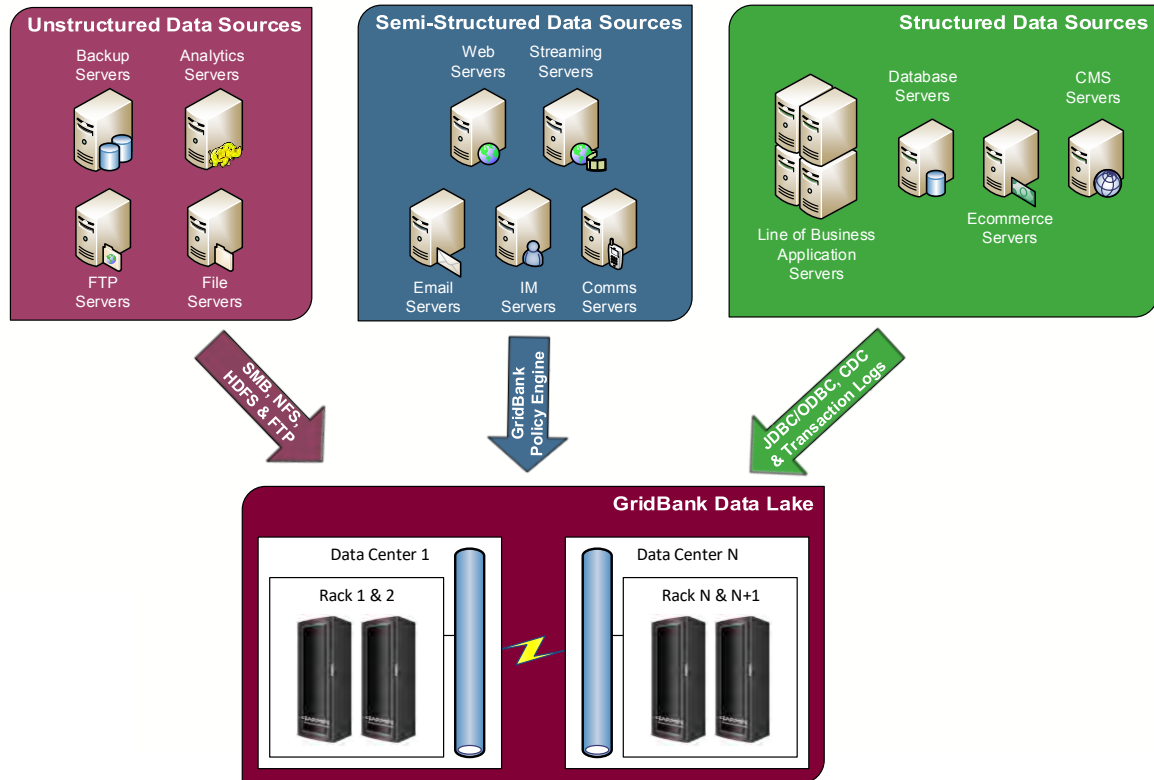
Identifying Relationships & Correlations

Data Mining & Visualization

Big Data Analytics Integration



GridBank Structured Replication Model



ODBC/JDBC

- Leverages the Map Reduce massively parallel processing power to read database tables directly into the GridBank MetaBase & relies on standard JDBC/ODBC database queries

Change Data Capture

- Performs extract transform load conversions on data and operates on the basis of triggers integrated into the databases, automatically replicating the database in near real time

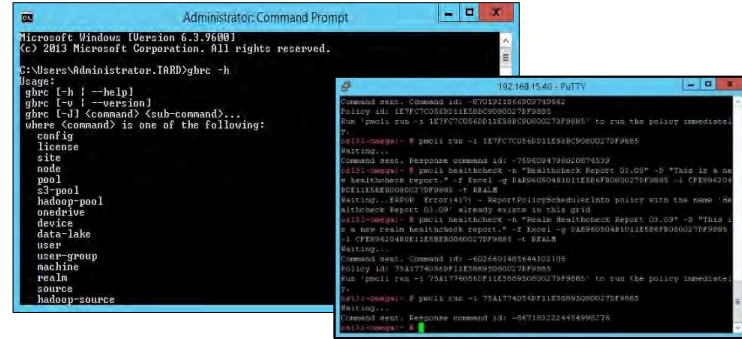
Transaction Logs

- Provides high performance database replication and loading within in-memory transaction streaming, ensuring that databases are synchronized in real-time

Intuitive User Interfaces

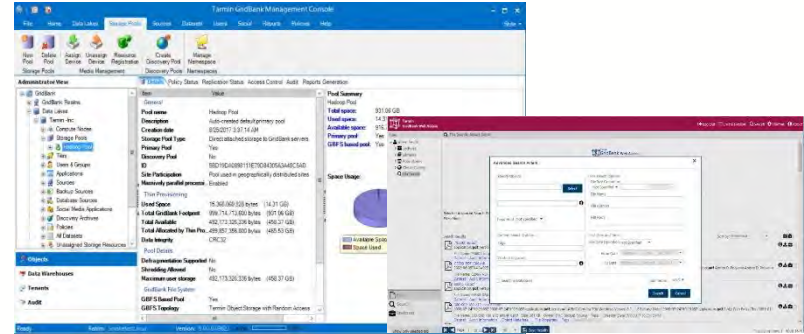
Command Line Interface

- Interactive & scriptable command line interface
- Powerful & flexible automation reflecting regular expressions



Graphical User Interface

- Prepare queries within a simple graphical environment
- Simplify querying for multiple data sources, tables or values



Benefits & Capabilities

24/7 High Availability

Enables Business Continuity & Customer can scale as the requirements emerge



Security & Compliance

Clear security model & integration with AD, LDAP & DB2 & Oracle



Efficient Discovery

Supports regular expressions, SQL queries & reporting tools for improved customer understanding



Single Data Lake

Consolidated sources for executive management & reporting



Future Proof

Consolidated sources for executive management & reporting

