Why Cloud Backup Now?

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Agenda.

- What is Cloud Backup & Restore (BUR)?
- Typical Cloud BUR Customer Errors
- Cloud BUR Future Challenges
- Urgent and Important End User BUR Problems
- Market Conditions Exacerbating BUR Problems
- How Cloud BUR Solution Addresses Today's BUR Issues
- Why Asigra?
- Questions

What is Cloud BUR?

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Cloud BUR Characteristics.

- Multi-tenant
- Shared infrastructure
- User transparency
  - Incredibly easy to use
- Scalable & resource elastic
  - Flexible resources-on-demand
- Pay-as-you-go cost-effective pricing - IaaS
- Accessible as a loosely-coupled service
- Economies of scale

SNIA's Cloud BUR Definition.

Service-Based

- BUR application hosted and operated at a central location
- SP manages the BUR application, hw. resources and security settings
- End users can fine tune SLAs, policies, business rules, and access control

Ubiquitous Access

- Standard networking protocols to transfer data between customer and SP sites
- Subscribers can back up data to any location that can access the service

Scalable and Elastic

- Hw. resources available to subscribers on-demand

Metered by Use

- Utility-based cost model – hw. resource usage can be monitored, controlled and reported

Shared and Secure

- Data and configuration are kept virtually separate in a scalable, shared infrastructure
- Data mobility/portability between cloud repositories

Cloud BUR – Optimized For:

- Economies of scale through on-demand and elastic infrastructure
- Multi-tenant architecture
- Utility pricing
- Accessible as a loosely-coupled service
- Consumption tracking, monitoring & reporting

Cloud BUR – Needs to:

- Be non-disruptive
- Provide granularity for RPOs
- Provide granularity for RTOs
- Provide fast recoveries locally
- Provide fast off-site recoveries – Disaster Recovery
- Policy- and schedule-driven
- Automated – little or no human intervention
- Not application disruptive – no scheduled downtime

Cloud BUR – Needs to: (Cont'd.)

- Cost less
- Secure
  - Data must be encrypted at all times
  - Designed for multi-tenant environments
- Easy to install, manage and deploy
- Reduce operational expenditures
- Protect servers, desktops and laptops – on the LAN & mobile
- Expand resources & capabilities elastically, cost-effectively
- Backup virtual & physical environments
- Support of Public, Private, Hybrid clouds

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Typical Errors Customers Make with Cloud BUR.

- Focus on backup and not recovery
- Limited resources to manage data backups & recoveries
- Finite (Private Cloud) vs infinite (Public Cloud) storage resources
- No storage tiering
- Do-it-in-house approach – no outsourcing to experts

Who is Protecting Your Data?

- Often delegated to junior or entry level p
  - Lack data protection knowledge or experience
  - Experienced IT personnel rarely volunteer for this job
- Self fulfilling prophecy
  - High failure rate makes responsibility unpopul
  - Thankless job
  - Experienced personnel avoid like the plague
  - Inexperienced personnel more likely to make mistakes
    - Increases probability of failures

Cloud BUR Future Challenges.

- Slow adoption of
  - Cloud BUR standards
  - Pay-per-use
  - Or SaaS business model of Public Clouds
- Security concerns
- Lack of demonstration of cost advantage

Traditional Backup Software not Designed for Cloud.

Traditional Backup software uses a Client Server Backup

- Requires a client software (Agent) on each server

Legacy solutions are designed for data center backup

- Software is not designed to back up remote locations over the cloud

Backup software is not designed to provide a service

- Designed for a single enterprise, no multi-tenant support

Replication, Snapshots and Mirroring don't provide BUR

- Multiple copies of corrupted data are still corrupted

Management overhead is high with agent based solutions

- Agent upgrades are manpower intensive and application disruptive

Agents require an open port on the firewall – security risk.

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Problems Cloud BUR Solves?

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Urgent End User BUR Problems.

Failed recoveries and restores

- No recovery assurance
- Highly limited testing

Recoveries and Restores are difficult and time consuming

Increased liability

- Fines for non-compliance from regulatory authorities
- Job security
- Fiduciary risk

- **Backup is the means to an end but not the end**
- **The worst time to find out that you cannot recover your data is when you have to recover your data**

Important End User BUR Problems.

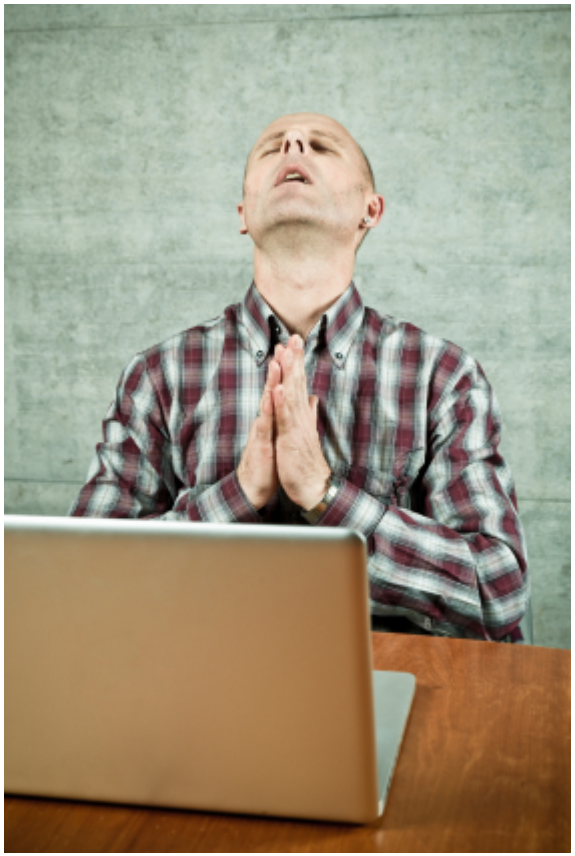
Backups & Restores are Manually intensive

- Missed backup windows, compliance
- Difficult to add, operate, manage, upgrade, fix, etc.

Highly application disruptive

Escalating burden & costs

- Infrastructure, storage, admins, bigger RPOs, much longer RTOs
- Multiple point systems with no integration
- Soaring pressure, plummeting morale
- Protecting the data of mobile workforce



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Market Conditions Exacerbating Cloud BUR Problems.

Data growth

- Too much data, too little time
- Proliferation of backup/recovery of virtual machines

High dependence on digital content to conduct business

- Downtime and data loss tolerance is low

Compliance & security requirements

- Uncompromising demands for privacy and retention
- eDiscovery
- Off-premise copies to aid Disaster Recovery (DR)

Economic downturn and recovery impacting headcount

- Limited resources to manage it all

30x increase in storage requirements over the next decade.

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How Cloud BUR Addresses Today's BUR Urgent Problems.

Recovery and Restore Assurance

Quick and efficient recovery

Off-premises copies aid Disaster Recovery (DR)

Reduced liability

- Reduced fiduciary risk and liability

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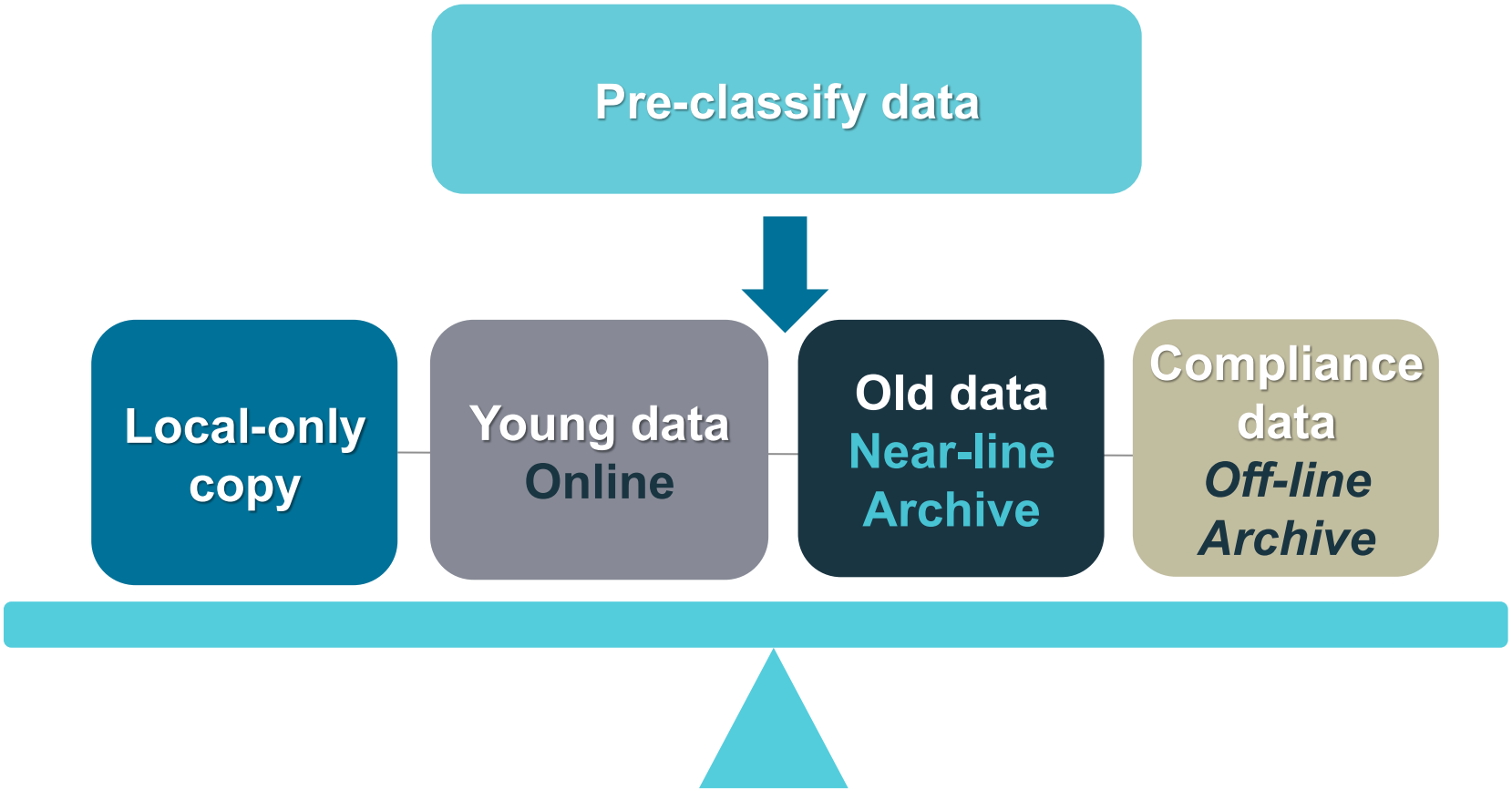
Tiered Storage Repositories.



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Why Asigra?

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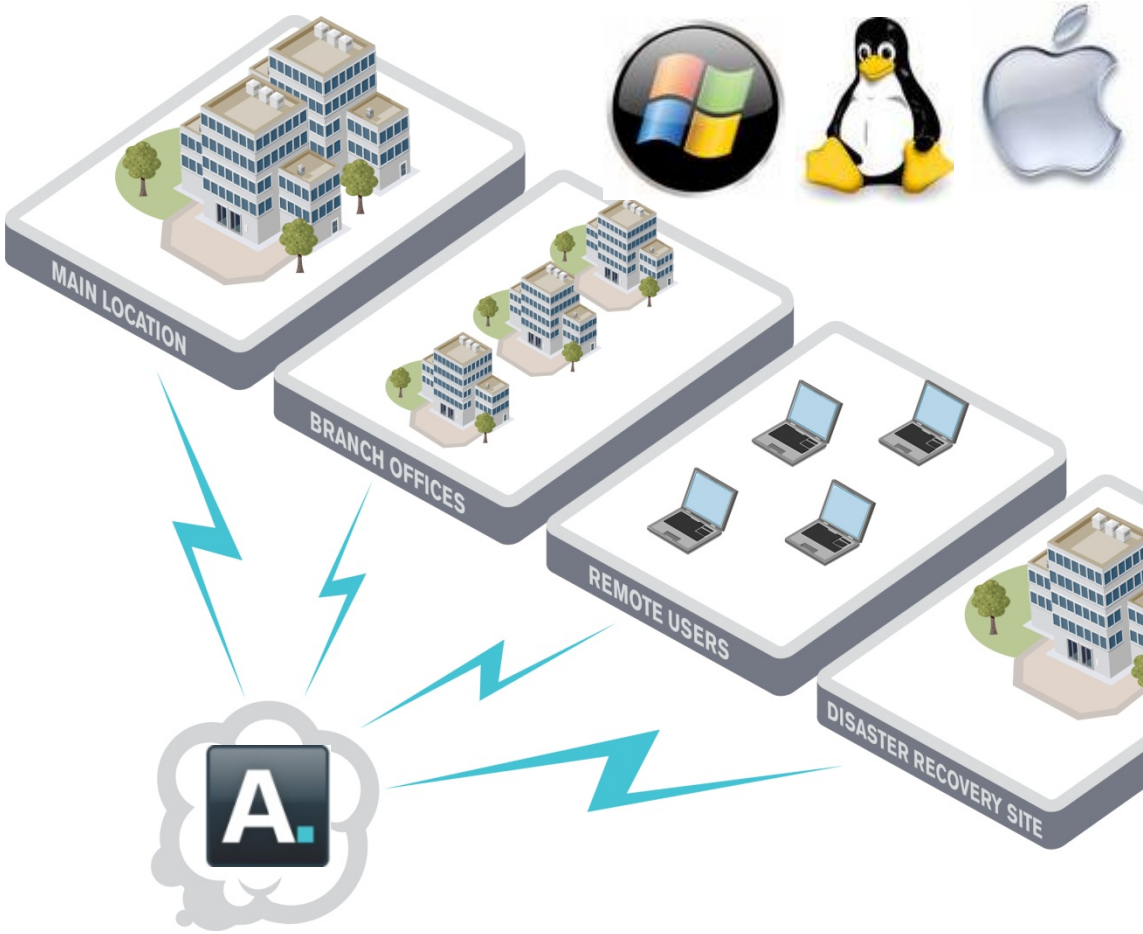
Turnkey Solution.



Turnkey solution for:
- Data Deduplication
- Archiving of old data
- Continuous Data Protection (CDP)
- Compression and encryption
- Local and offsite backup
- Laptop protection
- Support for Heterogeneous Environments

End-to-end protection – Laptops to data centers

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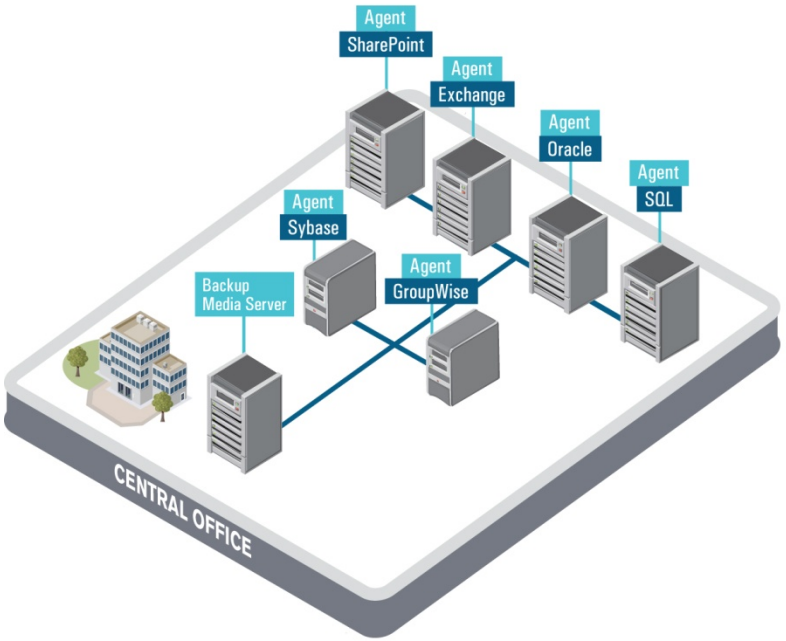
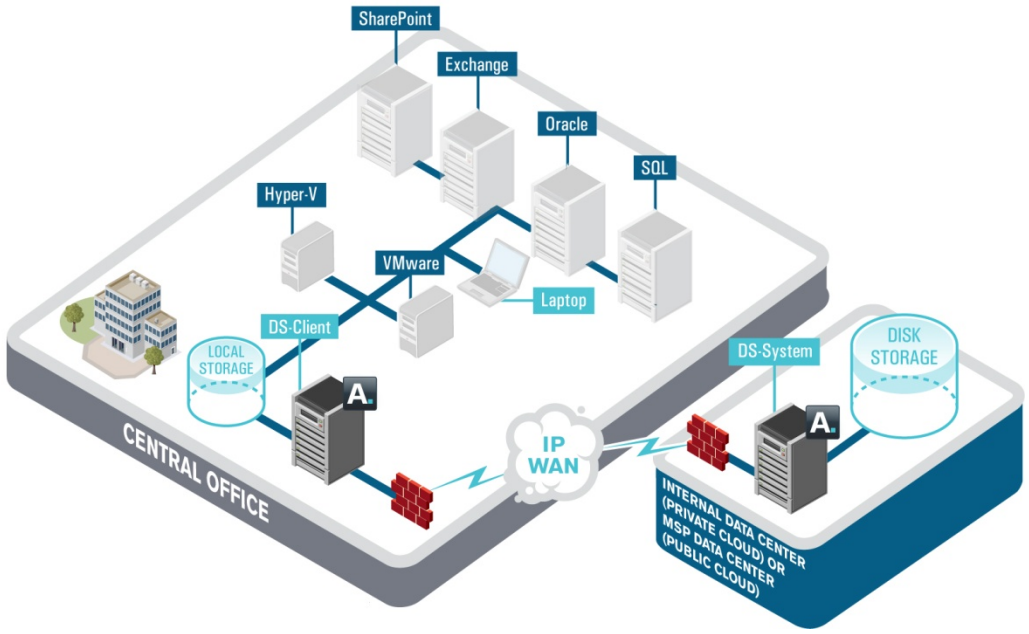
Low Touch, Agentless.

TRADITIONAL AGENT BASED BACKUP SOFTWARE.



ASIGRA = AGENTLESS.



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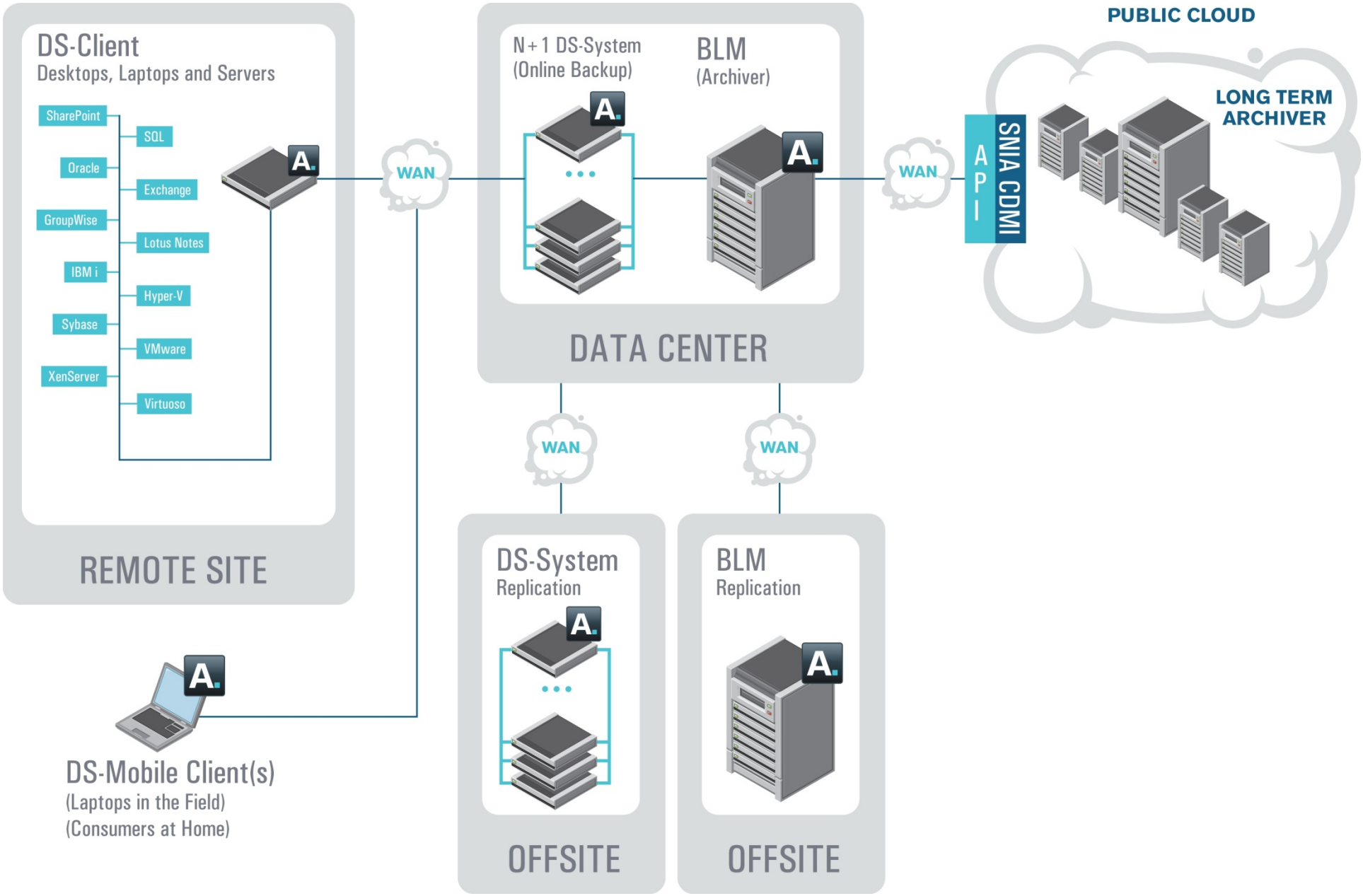
Asigra Built from Ground Up for Cloud BUR.



About Asigra.

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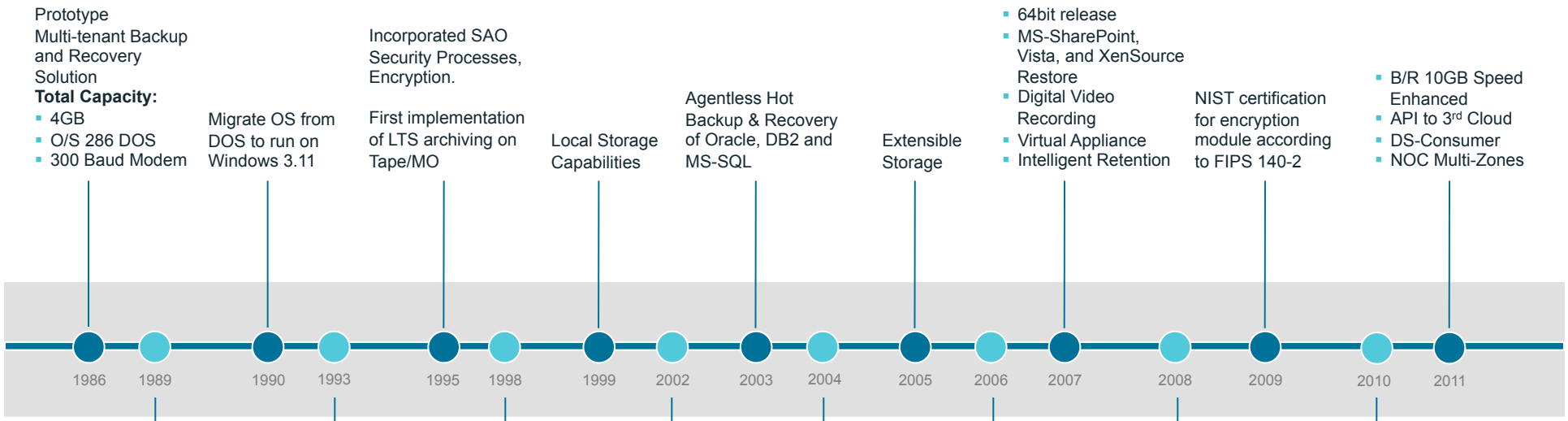
Continuous Innovation for 25 years.



1986 — Prototype
Multi-tenant Backup and Recovery Solution
Total Capacity:
- 4GB
- O/S 286 DOS
- 300 Baud Modem

1989 — First Agentless Multi-site Backup & Recovery managed services platform designed for service providers

1990 — Migrate OS from DOS to run on Windows 3.11

1993 — Data-processing at the block level and common file elimination, deduplication

1995 — Incorporated SAO Security Processes, Encryption.

First implementation of LTS archiving on Tape/MO

1998 — Agentless Backup & Recovery of Linux & Unix

1999 — Local Storage Capabilities

2002 — Bare Metal Restore

2003 — Agentless Hot Backup & Recovery of Oracle, DB2 and MS-SQL

2004
- Web Portal
- Autonomic Healing

2005 — Extensible Storage
- Validation Restores
- CDP
- N+1 Grid Architecture
- Email Message Level Restore
- VMware Backup & Recovery

2006
- 64bit release
- MS-SharePoint, Vista, and XenSource Restore
- Digital Video Recording
- Virtual Appliance
- Intelligent Retention

2007
- Grid DS-Client
- Encryption Key Management
- Multi-directional replication
- SAP certification
- VMware ESX 3i Backup & Recovery

2008 — NIST certification for encryption module according to FIPS 140-2

2009
- B/R 10GB Speed Enhanced
- API to 3rd Cloud
- DS-Consumer
- NOC Multi-Zones

2010
Expanding the TAM
- New Backup Sets
- DS-Mobile Client and Mass Deployment
- Enhanced Tiered Recovery with Local-Only Backup
- Enhanced Virtualization Support
- Ubiquity and Integration Through DS-Client API

Lowering Operational Costs
- DS License Server – License Management
- LAN Resource Discovery
- BLM Replication

Asigra's "firsts"

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Over 250,000 End Customer Sites.

Energy / Healthcare	JARÐBORANIR HF ICELAND DRILLING COMPANY LTD At Your Resources; VAALCO Energy, Inc.; EISENHOWER MEDICAL CENTER Five Star Treatment for Everyone®; MEMORIAL SLOAN-KETTERING CANCER CENTER; morphotek
Government	Statistics Iceland; LANDMÆLINGAR ÍSLANDS ...vísa þér veginn NATIONAL LAND SURVEY OF ICELAND; National Weather Service Southern Region Headquarters; CITY OF LONDON
Insurance / Financial Services	NBJ; THE CARLYLE GROUP; GMAC; Crawford JARDINE LLOYD THOMPSON Group plc; LLOYD'S; INVESCO; RIOCAN REAL ESTATE INVESTMENT TRUST; The St Paul MYRON STEVES
Legal	fisher meredith; FISHER & PHILLIPS LLP ATTORNEYS AT LAW; NEW JERSEY STATE BAR ASSOCIATION
Non-Profit	Save the Children; RILA RETAIL INDUSTRY LEADERS ASSOCIATION
Retail	Budweiser; LINLEY; PRIME communications; ATKINS; RETIF floristik; Broyhill; CIENNA
Sports	BALTIMORE RAVENS; PING; BOLTON WANDERERS; capitals; LIVERPOOL; Everton; Jonas
Technology	hp invent; vodafone; DATEV; FUJITSU; Bell; CACI EVER VIGILANT
Transportation / Manufacturing	TOYOTA Drivers wanted.; MEYER GROUP LTD; NORÐURÁL Century Aluminum; VIA Rail Canada; PB PARSONS BRINCKERHOFF; MASCO

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Summary.

- End to end data backup and restore
- Agentless
- Capture Less, Ingest Less, Store Less
- Secure
- Tiered Storage
- Works in all virtualized environments
- Built for the cloud
- Highly customizable and scalable

End Note.

- Powered by Asigra BUR solution superior business model
  - Makes your business easier to run, manage and grow
  - Simpler to sell significantly reducing your cost structure
- "new world order" cloud model vs. "legacy" on-premises approaches

Questions.

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