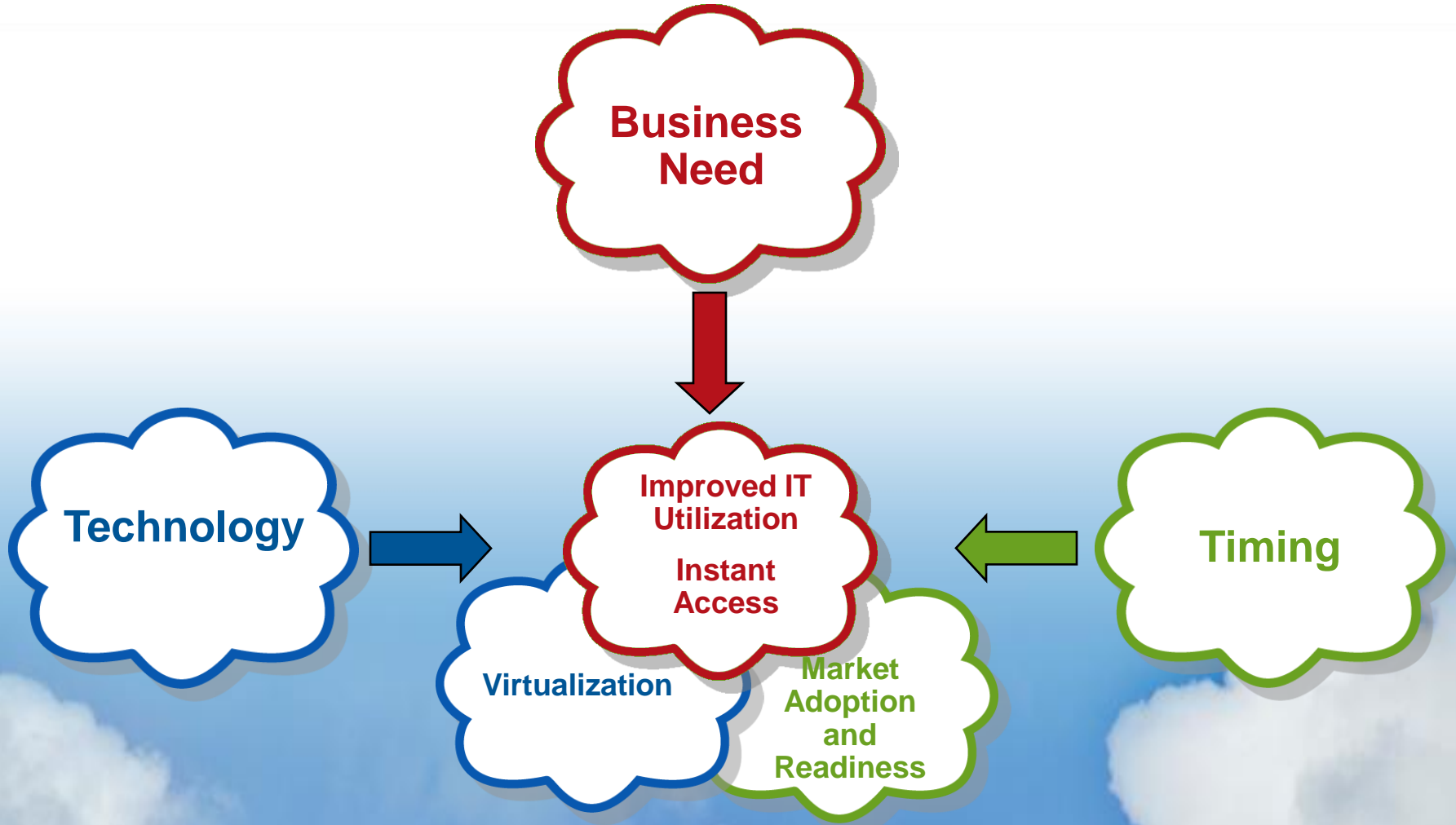# Cloud Infrastructure for Efficiency, Control and Choice

Mike Feinberg
Senior Vice President and General Manager
Cloud Infrastructure Group

Xconomy CLOUD³ Forum

December 10, 2009

A Transformative Convergence

EMC²
where information lives®

Business Need

Technology

Improved IT Utilization

Instant Access

Virtualization

Market Adoption and Readiness

Timing

EMC: Delivering Cloud Solutions

- One size does not fit all –
  Cloud technology addresses many business needs

- Cloud is vast –
  touches companies of all sizes and across multiple industries

- Through its unique approach to cloud, EMC provides
  complementary solutions

VCE
Vblock
Acadia

Private Cloud, Global Services Structure
(Commercial, Enterprise)

Atmos
Atmos Online

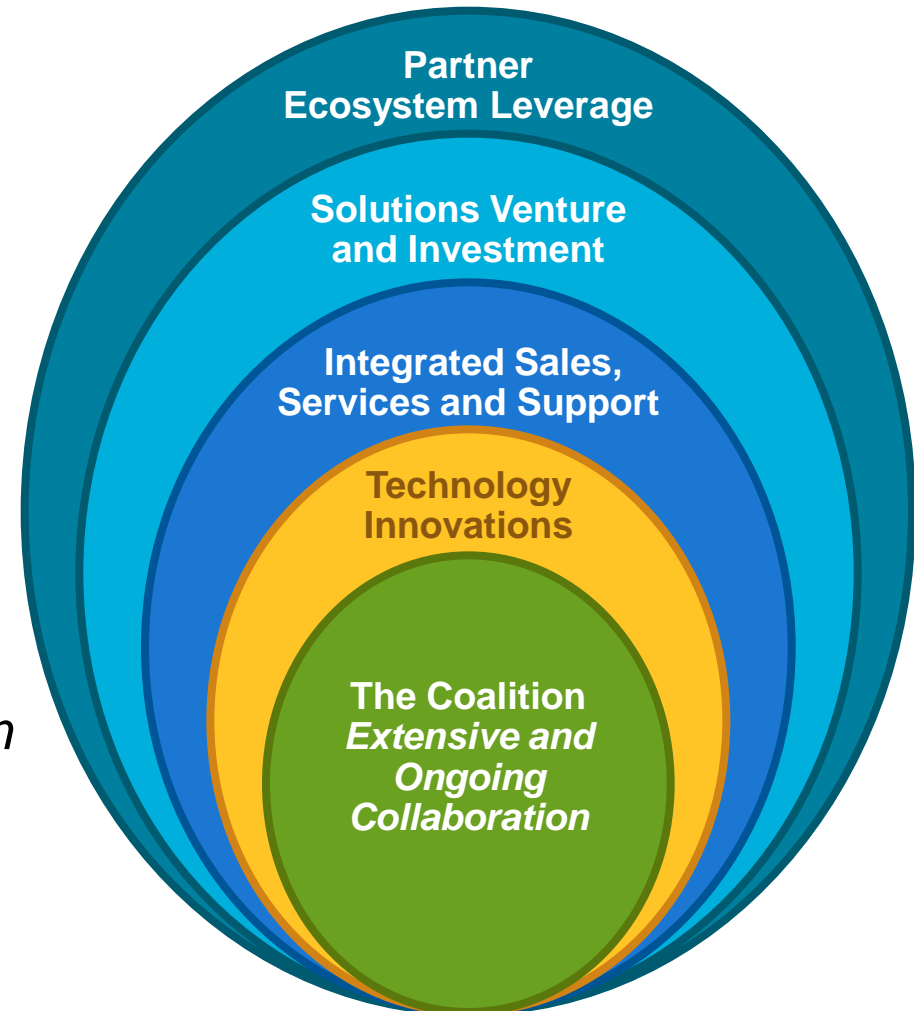**Cloud Object Store, Cloud Infrastructure Services**
(Start up – Enterprise)

Decho

Consumer Cloud, Cloud Information Services
(Consumer/SMB focus)

EMC²
where information lives®

Virtual Computing Environment (VCE) Coalition

VCE: Virtual Computing Environment

The Basics

- Private Cloud is the name for an end state in IT architecture

- Getting our customers from where they are to that end state is a *journey*

- The VCE coalition will **lead that journey**

- The first leg of that journey is enabled by *pervasive virtualization*

- Our first wave of announcements focused on enabling the first leg

Partner Ecosystem Leverage

Solutions Venture and Investment

Integrated Sales, Services and Support

Technology Innovations

The Coalition *Extensive and Ongoing Collaboration*

Acadia:
Cisco and EMC Solutions Joint Venture

With Minority Investments from VMware and Intel
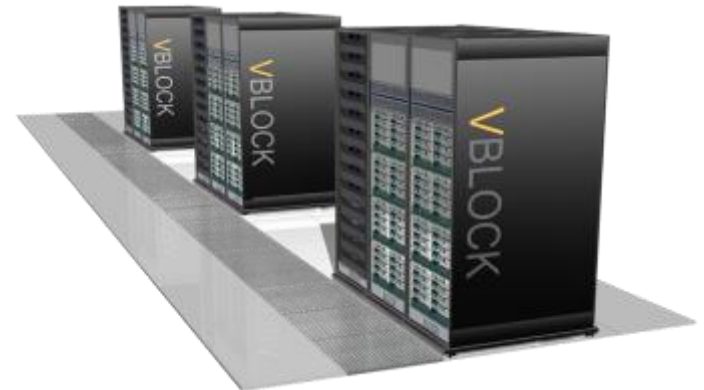
Build ▶ **Operate** ▶ **Transfer**

Joint Venture Description

- **Accelerate adoption of private cloud**
- **Unique Build, Operate, and Transfer model**
- **Standardized on Vblock architectures**
- **Enable partner ecosystem and service end customers**
- **Available Q1 2010**

Scaling with Web 2.0 Applications

EMC Cloud Infrastructure Group: Atmos and Atmos Online Services

EMC²
where information lives®

Announced Q408

Atmos
Unstructured Content Cloud

Boston   New York   London

Federation

Preview Available

Atmos Online
Cloud Services

Storage On-Demand   Compute On-Demand

Atmos Capabilities

- Multi-petabyte scale object store
- Geographic distribution
- Web services (REST/SOAP) and file access
- Policy-based management

Atmos Online Storage Service

- On-demand, pay-as-you go storage services with federation to move content between Atmos systems and Atmos Online

Atmos Online Compute Service

- On-demand pay-as-you-go compute services with instant and unlimited access to virtual servers

The Secret Sauce: EMC Atmos Software-- Increasing Operational Efficiency

EMC²
where information lives®

- **Massively scalable infrastructure**
  - Multiple petabytes; billions of objects
  - Hundreds of sites, fully distributed
  - Unified namespace
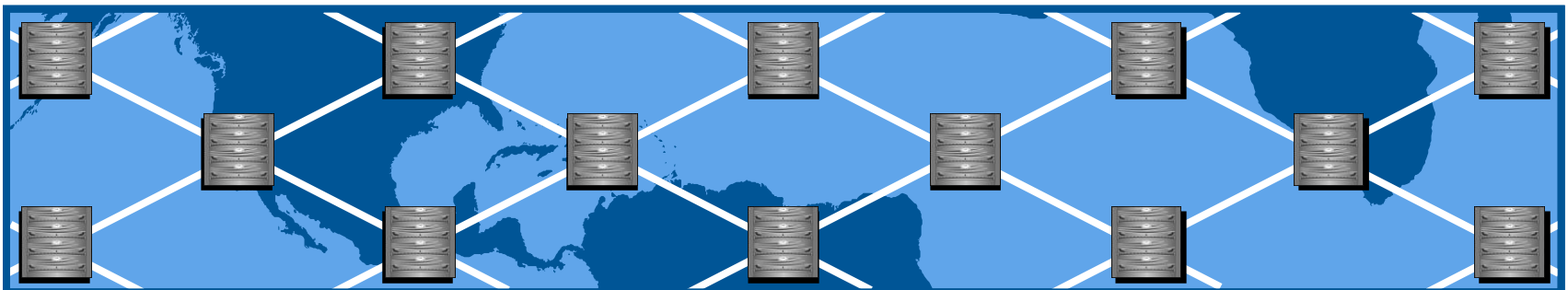- **Policy-based management**
  - Policy tells content where to go, what actions to take
  - Integrated object based metadata
  - Event-driven policy evaluation
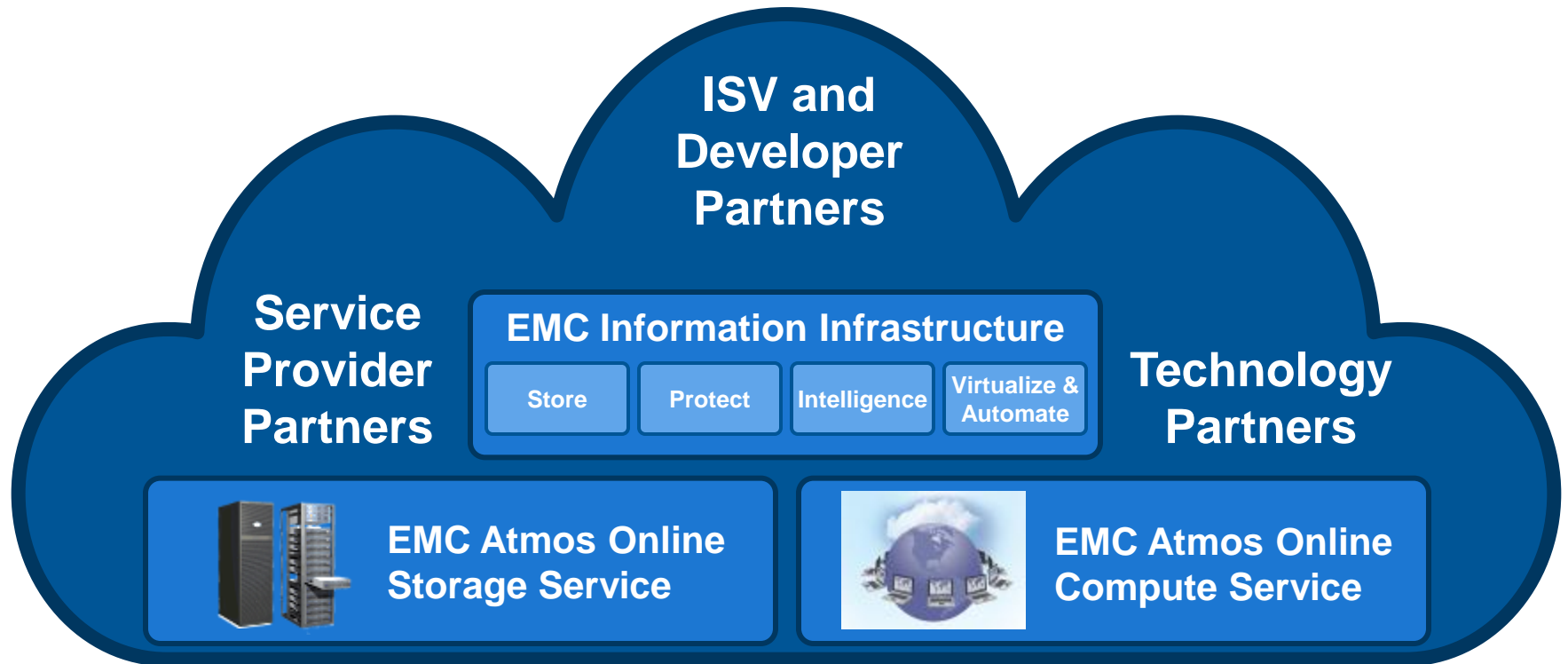
- **Data services and access methods**
  - Replication, compression, de-duplication, spin-down
  - Web services (REST/SOAP) and file system access
- **Management at scale**
  - Auto-config and auto-healing architecture
  - Multi-tenancy
  - Manage more with fewer people

EMC Cloud Infrastructure Group: Delivering a Cloud Infrastructure

EMC² where information lives®

ISV and Developer Partners

Service Provider Partners

EMC Information Infrastructure

| Store | Protect | Intelligence | Virtualize & Automate |

Technology Partners

EMC Atmos Online Storage Service

EMC Atmos Online Compute Service

| Cloud Service | Self-service | Granular metering | Pay as you go | Rapid provisioning |

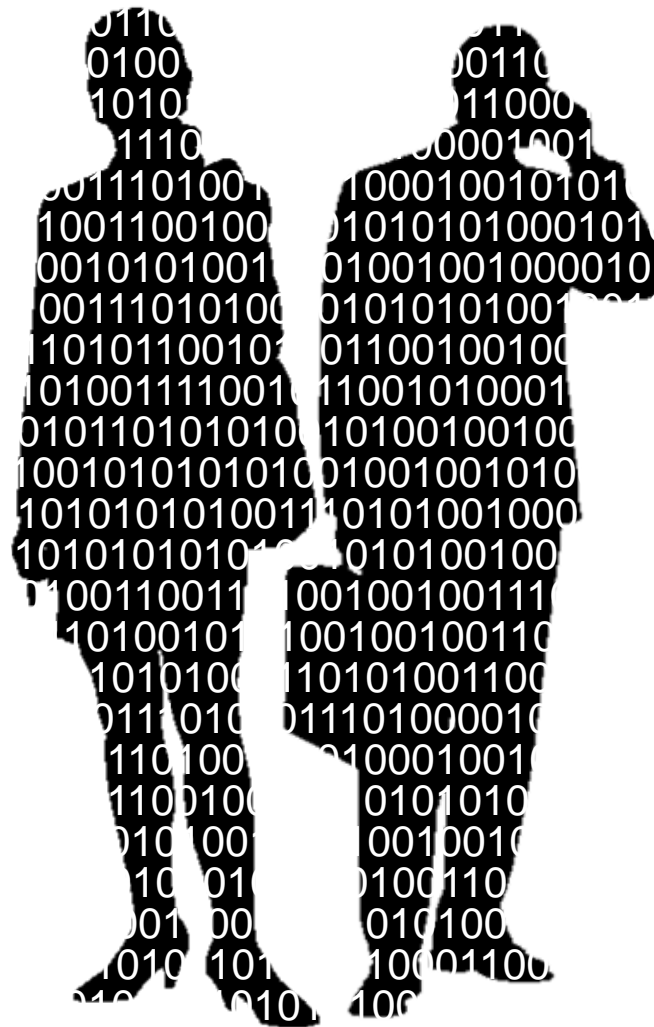| Cloud Architecture | Exabyte scale | Multi-tenant | RESTful / Elastic | Federated |

Anatomy of the New Digital Consumer

EMC²
where information lives®

Exploding Quantity

Lengthening Duration

Scattered Location

Growing Value

Decho: Focused on the Consumer Cloud

EMC²
where information lives®

Cloud-based Personal Information Service

Keep Track of Your Digital Life – manage all information across multiple devices and Web services from a single place

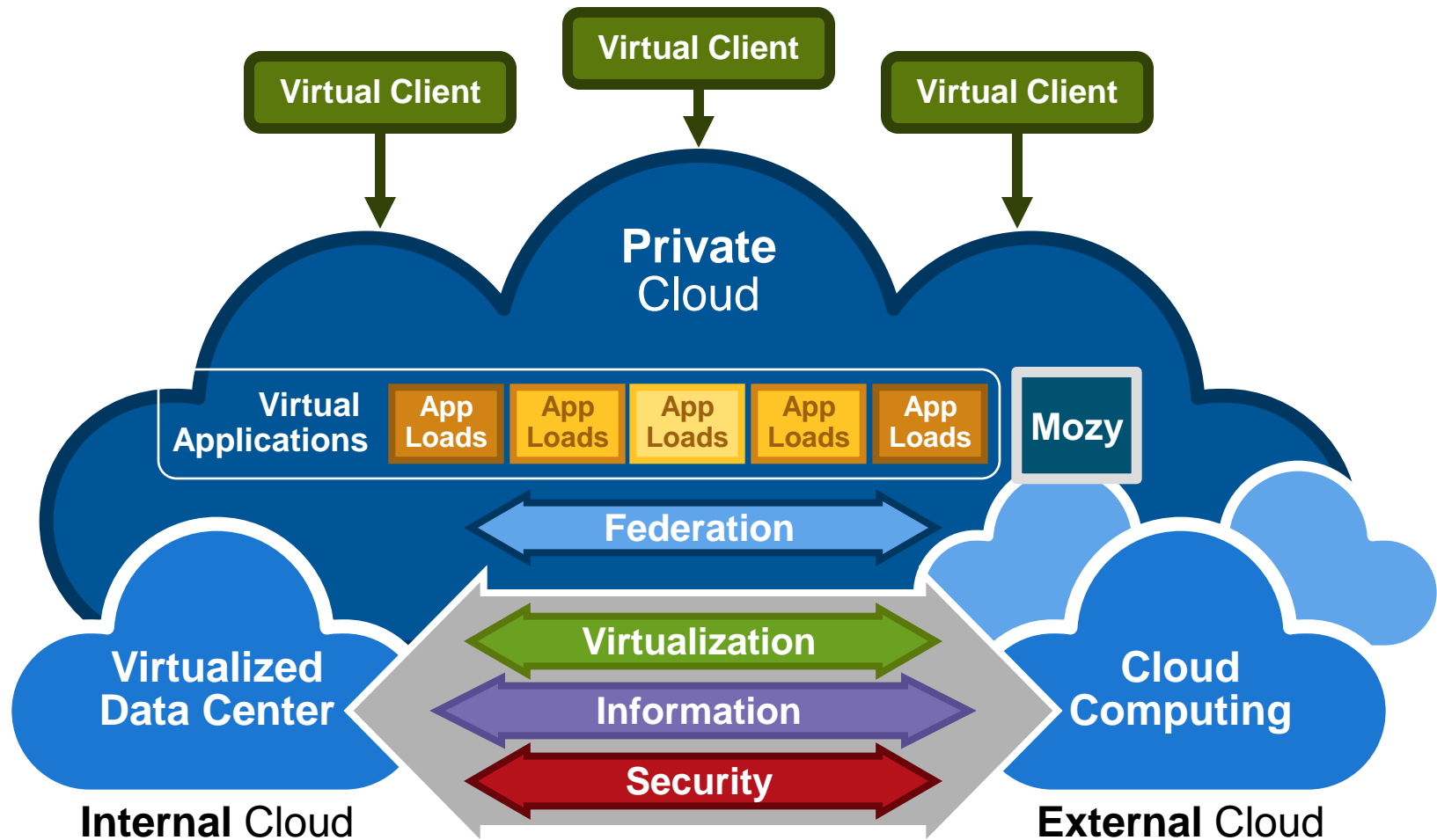**Access Anywhere** – 24x7 secure access to information from any web browser, PC or mobile device

Online and Offline – synchronization ensures information access even without Internet access

Search and Organize – find, tag and create information

Share and Publish – securely share information with friends and family around the world

Protect and Preserve – automatic, no-hassle backup of all your info

Decho
YOUR DIGITAL ECHO

EMC's Cloud Vision:
Enabling Efficiency, Choice, and Control

EMC²
where information lives®

Virtual Client

Virtual Client

Virtual Client

Private Cloud

Virtual Applications

| App Loads | App Loads | App Loads | App Loads | App Loads |

Mozy

Federation

Virtualized Data Center

Virtualization

Information

Security

Cloud Computing

Internal Cloud

External Cloud

Cloud Object Store -- Atmos