TiVo – Innovating the Future of the Living Room

- Pioneer of the DVR and innovating the living room experience
  - What we offer today
  - Where we are going
- Media and Entertainment
  - $270 million and about 1000 people
- Services in the US, Europe, Australia and New Zealand
  - Bringing it to the world

IT at TiVo

- IT's role: Increase Business Agility
- About the team
  - 52 people
  - System Admins, DBA, Network, Telecom, NOC, Security, Engineering, Tools, Facilities
- What we manage
  - 1,500 servers
  - 200 TB of storage
  - 1,400 desktop and laptop machines

Top IT Initiatives

- 2010: Online Software Changes – reduced downtime by 80%, no more working at night, improved partner satisfaction

- 2009: Data Center Consolidation – 33% DC savings, increased virtualization, refresh hardware

- 2008: Disaster Recovery – reduced risk, costs, and increased capacity

Searching For A Solution

- Key pain point
  - Need for agility in both development and operations

- Business initiative
  - Desire to speed up the creation of databases

- Compelling event
  - ERP development

Database Environment

- 100 Production databases > 1TB in size
- 2 copies on average per databases
- Databases: Oracle 10 and 11 and MySQL
- Server infrastructure: HP Blades
- Operating System: Red Hat Linux
- Storage: Mix of EMC and NetApp

The ERP Initiative

- Goal: Increase agility in the ERP environment

- Refresh ERP system 2 times per year

- 5-7 resources to provision a new database

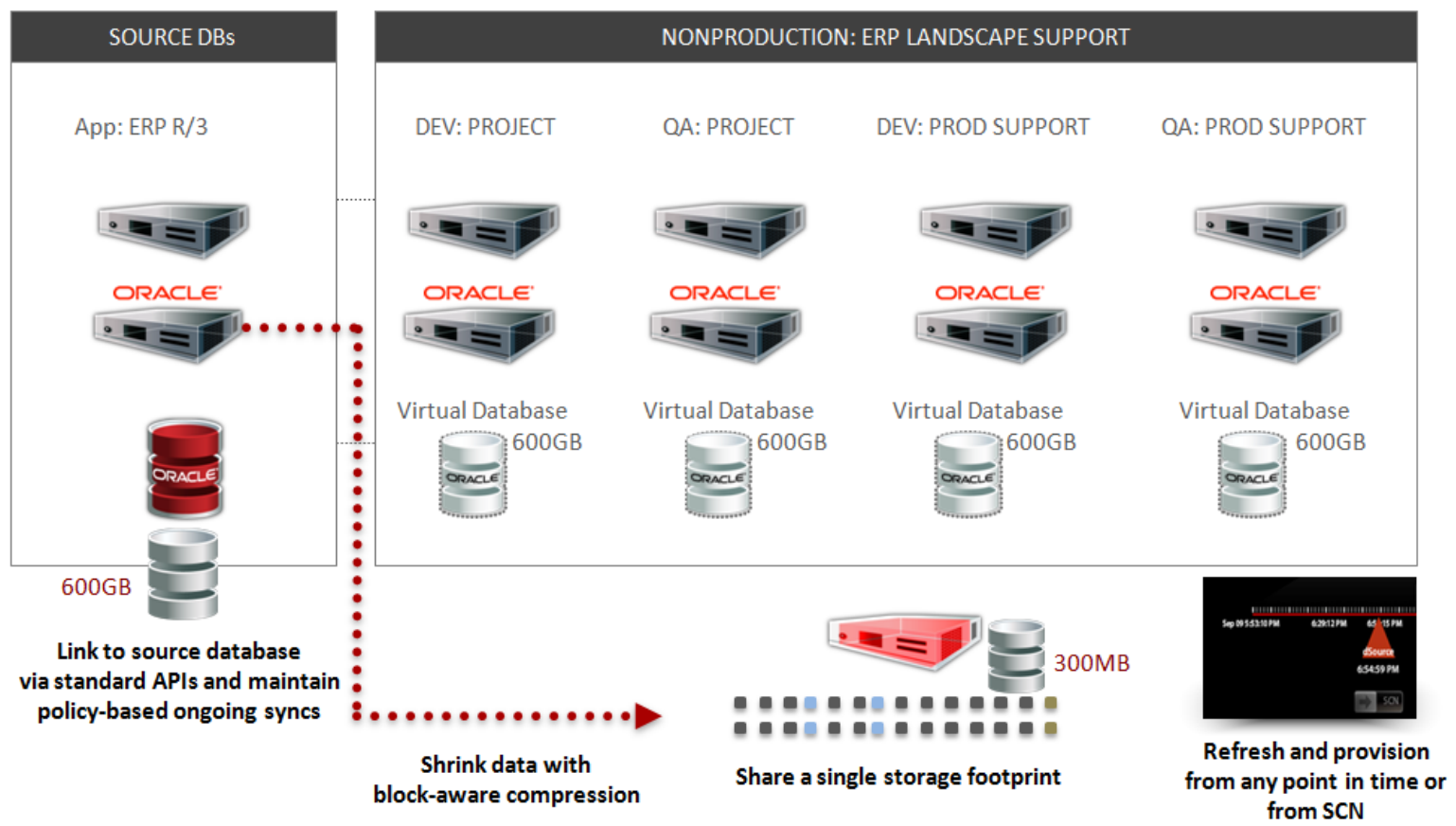- Hours to days to complete the provisioning process

Why Database Virtualization

- Virtual Databases provided the flexibility to quickly provision and refresh data sets

- Enabled us to better manage our storage – implementing a shared storage environment

- Multiple use cases meeting ERP requirements and beyond

How Database Virtualization Works

Deploying Database Virtualization at TiVo

- Assessed needs and environment with vendor

- Install was easy and fast

- The value of virtual databases was apparent to users right away

- The IT team and developers were very eager to start using it within days of the deployment

Results

- Storage consolidation: factor of 20 to 1

- Budget savings for using virtual databases: $120K/year

- Man hour savings: 20 hours/week for database provisioning and dataset refresh tasks across engineering

- Increased agility across the business

Increasing Agility in ERP System

- 75% of non-production ERP is using virtualized databases for training, QA, and development sandboxes

- Replaced shared environments with dedicated environments, including masking of PII data

- Faster time to provision a new database

- Fewer cross-IT resources required

- No extra storage purchased for new databases

- QA cycles reduced

Data Warehouse Flexibility

- Augment a single instance of business intelligence software with virtual databases

- Created multiple virtual databases for on demand report creation

- Enable reporting sandboxes to test reports

- Segment data for without affecting any other reports

- Implement shared storage across virtual databases to minimize storage impact

Faster Development

- Enable developers to write code and get immediate feedback
- Remove cycles in dev by having to wait to check-in changes for results

Next Up at Tivo

- Deploy database virtualization throughout all of engineering to speed up development time

- Expand usage across the organization tackling the solution that manages viewers' schedules

Thank You

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