Plan & Deploy
Data Protection & Availability

Kaushal Devater
Data Protection & Availability Discipline Lead - RDC
## Planning & Deploy – Data Protection & Availability

<table>
<thead>
<tr>
<th>Industry</th>
<th>Typical Data Retention Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare</td>
<td>• Patient lifetime</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>• 75 – 100 years for R&amp;D records, applications</td>
</tr>
</tbody>
</table>
| Energy     | • Oil field lifetime  
             | • >50 years for subsurface exploration data                             |
| Government | • >100 years                                                            |
| Finance    | • Lifetime of the life insurance policy, plus 6-10 years                 |
| Aerospace  | • >30 years for design records (lifetime of aircraft)                    |
Impacts of Data Unavailability

**Lost Productivity**
- Number of employees impacted x hours of outage x hourly rate

**Lost Revenue**
- Direct loss
- Compensatory payments
- Future revenue loss
- Billing losses
- Investment losses

**Damaged Reputation**
- Customers
- Suppliers
- Financial markets
- Banks
- Business partners

**Financial Performance**
- Revenue recognition
- Cash flow
- Lost discounts
- Payment guarantees
- Credit rating
- Stock price

**Other Expenses**
- Temporary employees, equipment rental, overtime costs, extra shipping costs, travel expenses, and so on.
### Planning & Deploy – Data Protection & Availability

<table>
<thead>
<tr>
<th>Identify the Purpose</th>
<th>Backup</th>
<th>Recovery</th>
<th>Archive</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand the Environment</td>
<td>Replication</td>
<td>Compliance</td>
<td>Migration</td>
<td>Resiliency</td>
</tr>
<tr>
<td>Identify the Risk</td>
<td>Cloud</td>
<td>BAAS</td>
<td>DR-AAS</td>
<td>Infrastructure</td>
</tr>
<tr>
<td>Capacity or Performance</td>
<td>Applications</td>
<td>OS</td>
<td>RTO</td>
<td>RPO</td>
</tr>
<tr>
<td>Scalability</td>
<td>MTBF</td>
<td>MTTR</td>
<td>MTRS</td>
<td>Security</td>
</tr>
<tr>
<td></td>
<td>Data Loss</td>
<td>Redundant</td>
<td>Media</td>
<td>Fault-tolerance</td>
</tr>
</tbody>
</table>
Use Case

Products Involved: Avamar, NDMP, Data Domain, VMware, Exchange and DPA (Data Protection Advisor).
Scope of the project: Avamar Install and Integration with DD, NDMP Integration, VM Image backups & restores. DPA reporting for Avamar and data domain.

Source of use case: Subodh Kanbarkar, Solution Architect
Products Involved: Avamar 7.2 ADS, Avamar Data Migration Enabler, Data Domain 4200s and Avamar Single M2400 nodes.
Scope of the project: Migration of existing Avamar clients/data.

- Total Backup size on source Avamar to migrate: 32 TB.
- Total of 260 clients/474 backup sets.
- Migration of Windows, Linux (File system), VMWare and Exchange clients.

Source of use case: Subodh Kanbarkar, Solution Architect
Dell EMC Services

Capabilities

DIRECT AND PARTNER ECOSYSTEM

CONSULTING SERVICES
• Strategy, planning, execution
• IT transformation:
  − Infrastructure
  − Operating model
  − Applications
• End user
• Hybrid cloud

TECHNOLOGY & DEPLOYMENT SERVICES
• Design, installation, configuration
• Data migration
• Optimization
• Residents
• DSEs

CLOUD SERVICES
• IaaS hosted enterprise apps
• Storage, Backup, Archive as a Service
• End-to-end management:
  − Cloud
  − Applications
  − Infrastructure
  − Out Tasking

SUPPORT SERVICES
• Proactive/predictive HW and SW support

EDUCATION SERVICES
• Organization & skills transformation
• Technical training & certification
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