The Trusted Data Center and Storage Infrastructure: Best Practices and Business Results for Mid-Market Organizations

Insights from Dell Technologies & Intel Corporation’s Global Survey of Mid-Market IT Leaders

NOVEMBER 2019
Many mid-market organizations struggle to deliver the data center security and reliability demanded in this highly competitive segment of the market. Both line-of-business and IT stakeholders acknowledge room to improve:

By prioritizing the security and dependability of their IT environments above all else, mid-market organizations with trusted data centers experience very real and quantifiable business and technology outcomes that give them the edge and agility to win in today’s highly competitive marketplace.

Data center risk has the potential to hurt organizations relative to competitors:

- Outages can disrupt customer service, leading to customer churn or negative reviews.
- Downtime also has direct financial implications. ESG’s research shows the average hourly cost of downtime for surveyed firms is between $30,000 (median) and $38,000 (mean).
- Compliance violations often have direct financial consequences. For example, a GDPR violation could result in a fine of up to 4% of an organization’s annual revenue.

This eBook is grounded in peer-based primary market research and is intended to highlight the behaviors and performance of organizations leading the market in data center trust specifically as they relate to on-premises storage infrastructure.

Why Does Leading in Data Center Trust Matter?

By prioritizing the security and dependability of their IT environments above all else, mid-market organizations with trusted data centers experience very real and quantifiable business and technology outcomes that give them the edge and agility to win in today’s highly competitive marketplace.

38% of line-of-business executives have serious concerns about IT’s security capabilities and controls. This is the most frequently cited issue line-of-business respondents have with IT.

46% of IT practitioners feel they have a problematic cybersecurity skills shortage. This is the skills shortfall most frequently cited by IT respondents.
Dell Technologies, Intel Corporation, and ESG recently completed a survey of 1,650 IT executives and strategists at organizations with less than 1,000 employees. The research showed that just **7% of mid-market organizations could be categorized as trusted data center Leaders** that were in alignment with a broad set of best practices spanning different aspects of infrastructure, security, and data protection. On the other end of the spectrum, **33% of mid-market organizations were categorized as trusted data center Laggards**, in alignment with half or less of the best practices assessed.

**Trusted Data Center Best Practices:**

- **Refresh/retire data center infrastructure regularly**
  - Average server age is <3 years at all Leader organizations
  - Average storage system age is <3 years at all Leader organizations

- **Believe strongly that trusted technologies matter**
  - All Leader organizations believe it is important to encrypt sensitive data
  - All Leader organizations believe "built in" secure infrastructure is important

- **Act on beliefs by using trusted technologies**
  - All Leader organizations actually encrypt sensitive data
  - All Leader organizations replicate most/all sensitive data to secondary systems

**Download the full report for more information**

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Why Embedded Data Protection Features Matter: Fewer Outages, Improved SLA Adherence

Leaders capitalize on their investment in purpose-built backup technologies and their use of specialized protection technologies, such as flash acceleration and deduplication. As a result, Leaders are confident in their ability to recover data in case of an unplanned outage.

High confidence in system uptime and data recoverability

Compared to Laggards, Leaders are...

- 2.7X more likely to view their application and system uptime as excellent.
- 2.5X more likely to be very confident in their ability to recover data to resume business operations from an unplanned outage within one day.
- 2.6X more likely to be very confident in their ability to recover from a major data security event with negligible data loss.

Service Level Agreement for Data Recovery

Due to their investments in modernized infrastructure, Leaders are able to reduce their SLA-based data recovery time. Leaders are 4X more likely than Laggards to have an SLA-based recovery time of less than 2 hours. On average, Leaders aim for a 39% smaller recovery time window than Laggards. More importantly, Leaders are able to adhere to their SLAs 25% more often than Laggards, despite the fact that their SLAs are more aggressive.

<table>
<thead>
<tr>
<th>SLA Dynamics</th>
<th>Leaders: 5.7 hours</th>
<th>Laggards: 9.4 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLA for data recovery from when recovery request is submitted (on average)</td>
<td>Leaders: 71%</td>
<td>Laggards: 57%</td>
</tr>
</tbody>
</table>
| SLA adherence (on average) | }
Why Embedded Data Protection Features Matter: Uptime + SLA Adherence = Happy Customers

ESG compared organizations that both enjoy excellent or good uptime and availability and high SLA adherence to organizations that reported their uptime and availability was “acceptable” or worse and whose SLA adherence was lower than 50%. The differences between these two groups of organizations were stark in terms of customer satisfaction, ability to grow market share, and future-facing business optimism.

SUCCESS DELIGHTING CUSTOMERS
From websites to mobile apps, to ecommerce storefronts, customers expect companies to provide them with an always-on experience. Mid-market organizations with storage environments that include a robust set of native data protection capabilities excel at meeting these expectations. In turn, they are 2.1X more successful at attaining customer satisfaction scores that exceed expectations.

SUCCESS WINNING CUSTOMERS FROM COMPETITORS
Native data protection capabilities not only enable mid-market organizations to meet the expectations of their existing customers, but also to compete for and win new customers. By reducing churn and thanks to positive word of mouth, these organizations are 3.6X more likely than lower performers to have grown market share in the past 12 months.

The Result: Faster Revenue Growth
Ultimately, the customer benefits achieved in part thanks to operating a highly available, highly recoverable environment show up in organizations’ top-line revenue projections. On average, organizations that enjoy excellent or good uptime and high SLA adherence expect to increase their revenue by 23% annually over the next few years. This is 3.8X higher anticipated growth than lower performing organizations (6%).
How to Become a Leader: Refresh Storage Hardware Frequently

Leaders refresh storage hardware more often than their counterparts, allowing them to:

1. Take advantage of new hardened and multi-layered security capabilities that may not be present on older generations of technology.
2. Eliminate aging infrastructure that is more susceptible to failures that cause outages / downtime.
3. Keep up with current storage data demands with the improved capacity and performance of upgraded storage hardware.

Percentage of respondents reporting the average age of storage systems is <3 years old:

- **Leaders**: 100%
- **Laggards**: 3%
For Leaders, Newer Storage Systems = A More Feature-Rich and Reliable Storage Environment

Leaders’ more modern storage frequently includes advanced data protection features that help ensure their on-premises data remains safe and secure.

ESG asked respondents about the proportion of storage hardware utilizing advance data protection features. Leaders were much more likely than Laggards to report all of their storage hardware had each capability:

- **AUTOMATIC SECOND-SITE FAILOVER CAPABILITIES**
  Backup operational modes assumed by secondary system in case of primary system failure. Leaders are 1.8X more likely than Laggards to utilize this feature on all of their storage systems.

- **MULTI-SYSTEM REPLICATION**
  Copying and relocating data to protect against data loss from outages. Leaders are 1.6X more likely than Laggards to utilize this feature on all of their storage systems.

- **SELF-ENCRYPTING DRIVES**
  Have circuits built in the disk that encrypts and decrypts data autonomously. Leaders are 1.8X more likely than Laggards to utilize this feature on all of their storage systems.

- **SNAPSHOTS/CLONES**
  A data storage/duplication technique utilized to recover data from a disaster. Leaders are 1.9X more likely than Laggards to utilize this feature on all of their storage systems.
Quantifying the Value of Refreshing Storage Infrastructure Frequently

Due, in part, to their newer storage hardware, organizations that operate modern storage experience fewer application outages that are resolved faster. Combining this data with the average cost of downtime reported, organizations with modern storage environments save as much as $20M/year in avoided downtime compared to organizations with legacy storage.

### Modern Storage

- **Average Storage System Age**: <3
- **Outages Across All Apps Per Month**: 7.7
- **Months Per Outage**: 12
- **Cost Per Hour**: $38K
- **Total Annual Cost of Downtime**: $13.3M

### Legacy Storage

- **Average Storage System Age**: 3+
- **Outages Across All Apps Per Month**: 10.3
- **Months Per Outage**: 12
- **Cost Per Hour**: $38K
- **Total Annual Cost of Downtime**: $33.3M

60% reduction in downtime cost
How to Become A Leader: Self-Encrypting Drives Enable Hardware Encryption

Data encryption adds an additional layer of protection, improving data security and mitigating the potential for data loss. **Leaders are more vigorously encrypting their data particularly at the hardware layer via self-encrypting drives.**

Importance of data encryption

Leaders are 2.9X more likely than Laggards to consider encrypting sensitive data on-premises as very important. Furthermore, Leaders utilize encryption more frequently. **Leaders are 2.6X more likely than Laggards to always encrypt their sensitive data.**

Encryption across layers

Leaders encrypt their data across multiple layers and are more likely than Laggards to encrypt their sensitive data across hardware, transport, and application layers.

**81% for Leaders versus 65% for Laggards**

**63% for Leaders versus 62% for Laggards**

**74% for Leaders versus 69% for Laggards**
Investments in infrastructure technologies, like PBBAs, are made in part to help organizations maximize uptime and availability and minimize security risk. But do Leaders, who make bigger bets on trusted technologies, get more bang for their buck?

92% of Leaders report that investments in infrastructure technologies to maximize uptime and availability and minimize security risk have met or exceeded ROI forecasts.

Leaders were also 1.6X more likely than Laggards to report ROI for these investments has exceeded forecasts.

Leaders are 2.2X more likely than Laggards to feel their investments in infrastructure technologies to maximize uptime and availability and minimize security risk have greatly reduced organizational risk.
Methodology and Demographics

Data in this eBook comes from a comprehensive online survey of IT decision makers. The survey was fielded between June 13, 2019 and July 8, 2019. To qualify for this survey, respondents were required to be involved in the decision-making process for data center technology purchases at their organization. Moreover, they must have reported a high degree of familiarity with their organization’s risk reduction strategies and priorities. Finally, the research was exclusive to the mid-market: All respondents must have been employed at organizations with between 100 and 999 total employees.

After filtering out unqualified respondents, removing duplicate responses, and screening the remaining completed responses (on several criteria) for data integrity, a final sample of 1,650 respondents remained.

These figures detail the firmographics of the respondent base, including respondents’ country of residence, respondents’ responsibility level, organizations’ total number of employees, and organization industry.
About Dell Technologies:
With the broadest portfolio of trusted infrastructure and data protection solutions, Dell EMC Technologies provides real expertise for end-to-end security, enabling mid-market businesses to adopt transformative technologies to maximize performance, compete, and grow.

About Intel®:
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