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| Recovery Manager Central  Total Cost of Ownership Report for  CustomerY |
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This report gives an estimate of the cost savings that CustomerY can achieve by implementing a hybrid backup scheme using both Recovery Manager Central (RMC) and your existing backup application. This analysis is based on data collected from CustomerY’s backup environment.

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HPE StoreOnce powered by

Intel ® Xeon® processor

**Key Findings**

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| $ReportImage_RMCBW$ | $ReportImage_RMCFSPERF$ | $ReportImage_RMCCostSave$ |
| **Backup Window** | **Improved File System backup performance using RMC. (hours)** | **Potential 3 Year Savings** |
| 0.08 Min - 40.5 H | 94% | $40,504 |
| Longest job: **40.5 H**  12-hour+ jobs: 118 | Without RMC: **266** With RMC: **16** | Traditional: **$49,804** With RMC: **$9,300** |
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| 3PAR+RMC (hybrid) ExpressProtect key benefits | | |
| RMC offers a new way to back up file and virtual machine data that reduces both backup windows and can reduce backup application (i.e. ISV) license charges. | RMC allows up to 17x faster backups compared to traditional ways of backing up. | Using a combination of RMC and your backup ISV can allow you to realize substantial savings in backup software license charges. |

HPE StoreOnce Recovery Manager Central

**Reduction in backup duration and backup software licensing costs**

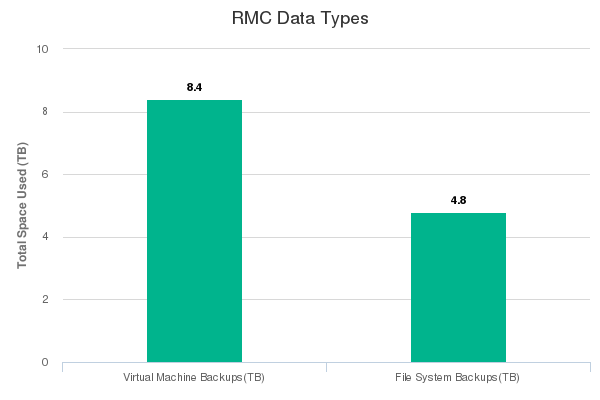
HPE Recovery Manager Central in combination with Express Protect, transparently moves backup data from 3PAR Snapshots to a StoreOnce-based deduplication store. The integration of 3PAR and StoreOnce can speed up backups by up 17x (as compared to traditional backup methods) and allows snapshot and backup management from one console. RMC licensing is capacity-agnostic and therefore allows substantial cost savings compared to backup software that is typically licensed by capacity.

**Backup Data Types**

This chart shows the backup capacity in your environment that falls into either of these two key RMC use cases. This capacity is used to calculate the RMC benefit analysis below.

[HPE StoreOnce Recovery Manager Central software](http://www.hp.com/go/rmc) (RMC) integrates [HPE 3PAR primary storage](http://www.hp.com/go/3par) with [HPE StoreOnce Backup systems](http://www.hp.com/go/storeonce) to provide converged availability and a flat backup service to augment traditional backup approaches. StoreOnce RMC combines the performance of snapshots with the protection of backups, to enable fast, reliable, and simple protection for business-critical applications.

* Rapid online recovery – VMware administrators using RMC can create hundreds of non-disruptive, application consistent, virtual machine snapshots with rapid online recovery.
* Faster backup and restore – RMC’s Express Protect enables flat backup of VM snapshot data from HPE 3PAR to StoreOnce, independent of the backup application. Compared to traditional backup it delivers 17 times faster backups and 5 times faster restores.
* Less cost and complexity – RMC flat backup simplifies the backup architecture needed for protecting and recovering VMs in VMware environments. Using award-winning StoreOnce technology, all backups are deduplicated to reduce average backup capacity needs by up to 20 times.
* Application managed data protection – VMware administrators can monitor and manage snapshots, and backup and recovery, directly from within HPE OneView for VMware vCenter.
* Reduced risk exposure - VM backups stored on HPE StoreOnce are self-contained, fully independent volumes. Unlike snapshots, in the event of a disaster or if physical problems occur in the production storage environment, these backups can be restored to the original or a different HPE 3PAR array.
* The following charts show predicted savings (backup window duration and licensing costs) based on the assessed customer’s environment. This analysis focuses on two simple and easy to implement cases:
  + - * RMC for high-speed file backups
      * RMC-V for VM-consistent backups for ESXi environments



**RMC Licensing**

**Lower your licensing costs**

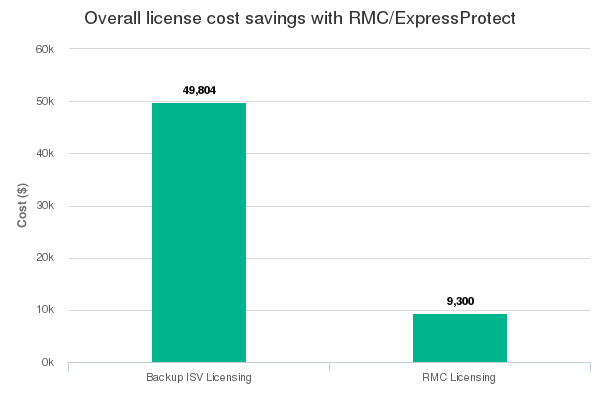
RMC can offset your traditional backup ISV software license charges. RMC licenses are lower cost compared to traditional ISV license charges. For File System and VM backups, the table below provides a rough cost comparison between ISV-based vs. RMC-based licensing over a three year period. Backup software licensing varies widely therefore the figures below only provide a rough estimate – the cost of $1,260/TB/year is taken from a recent Gartner report.1

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| --- | --- | --- | --- | --- |
| Data Type | Total Capacity | Traditional backup ISV cost [per TB licensing]\*\* | RMC-based licensing costs\* | Benefit |
| File System | 4.75 TB | $17,970 |  | No backup software license required |
| Virtual Machine backups | 8.42 TB | $31,835 |  | No backup software license required |
| Totals | 13.18 TB | $49,804 | $9,300 |  |
| **Total Predicted Savings** | | |  | $40,504 |

*\* RMC-V license for a 3PAR 74xx system – license and support.*

*\*\* Based on an assumed license cost /TB/year of $1,260 (for 3 years) – support & maintenance included.*

*\*\*\* Largest backup per datatype, per policy, per client.*



RMC moves data directly from 3PAR primary storage to StoreOnce. This process tightly integrates with 3PAR Virtual Copy and is efficient in only moving (and deduplicating) changed blocks. This approach eliminates lengthy file system tree walks.

1 Source: Gartner (February 2014)

Document: Analyze the TCO of Local Backup and Cloud

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| **Faster Backups with RMC** |  |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | Policy Name | Client Name | Duration (full backup) (hours) | Predicted backup duration (17x faster) (hours) | Reduction in backup window duration  (17x faster) (hours) | | OMDB01PP\_FS\_OS | omdb01pp-bck | 40.49 | 2.38 | 38 | | ROCEXCAS01\_FS\_OS | rocexcas01-bck | 31.70 | 1.86 | 30 | | ELINK01\_FS\_APP | elink01-bck | 29.87 | 1.76 | 28 | | ELINK01\_FS\_APP | elink01-bck | 28.02 | 1.65 | 26 | | ELINK01\_AD\_ELPAPPS\_5YR | elink01-bck | 27.22 | 1.60 | 26 | | ELINK01\_AD\_ELPAPPS\_1YR | elink01-bck | 25.28 | 1.49 | 24 | | M1DW01\_DB\_DATAM\_RO\_COLD | m1dw01-bck | 22.19 | 1.31 | 21 | | ELINK01\_FS\_APP | elink01-bck | 20.85 | 1.23 | 20 | | ELINK01\_FS\_APP | elink01-bck | 20.68 | 1.22 | 19 | | EDMSAPP\_FS\_APPS | edmsapp-bck | 19.83 | 1.17 | 19 | | **Total** |  | **266** | **16** | **250** | | **Lower your licensing costs**  The table to the left lists the top 10 file-system based backups and their duration. RMC can speed up file backups by up to 17x helping to keep backups within SLAs. |
|  |  |
| /tmp/RMCiMcUhw/2f1af2c843.png | **Smaller overall backup window for file system data**  The chart show the overall reduction in the backup window that can be achieved with RMC when backing up file system data. |
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| **Learn more at:** |  |
| <http://www8.hp.com/us/en/products/data-storage/storeonce-rmc.html> |  |

HPE TS Storage Consulting offers a [Backup & Recovery Impact Analysis Service](http://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4AA3-8083ENW) that provides you with additional understanding of your existing data protection environment. This advanced service creates a gap analysis to help identify performance issues, inefficient processes, infrastructure limitations, and evaluates cost-effectiveness and unknown risks within your backup environment. If you have experienced a recent outage, have low restore success rates or difficulty meeting your business Service Level Agreements (SLA), HPE can help expedite the troubleshooting process and quickly get you back on track. Learn more about the Backup & Recovery Impact Analysis Service from your local HPE Sales representative.