Continuous Data Protector (CDP)

1. What is FalconStor® Continuous Data Protector (CDP)?

FalconStor CDP is a disk-based backup solution that efficiently and cost-effectively protects business-critical data such as databases, email, and files. FalconStor CDP enables near-instant recovery from disasters – as little as 5 minutes for files, 10 minutes for servers, 30 minutes for sites – versus prolonged tape-based restore.

FalconStor CDP provides continuous data protection with near-instant recovery and high performance, helping drive top-line growth through business continuity and improved service levels. This enables organizations to focus more resources on growing the business, rather than running the business.

By providing continuous and periodic disk-based protection, FalconStor CDP allows organizations to enhance or eliminate their tape-backup infrastructures, minimizing software license and maintenance fees as well as hardware and tape costs. Since tape is often required for regulatory or archiving purposes, FalconStor CDP facilitates high-speed, serverless backup to tape. FalconStor CDP optimizes tape backup by leveraging existing resources without additional server backup agents.

From a "green" perspective, FalconStor CDP helps reduce total cost of ownership (TCO) by using less physical space and utilities than traditional backup mechanisms. Patented MicroScan™ technology compresses data during replication in order to significantly reduce WAN bandwidth utilization and costs.

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2. Why do I need FalconStor CDP?

Backup administrators face many challenges in meeting service-level agreements (SLA) such as recovery time objectives (RTO) and recovery point objectives (RPO). With the explosive growth of data, it is virtually impossible to meet shrinking backup windows. Additionally, traditional tape backup solutions are slow and unreliable, both in protecting the data and restoring the data after failure or disaster. FalconStor CDP allows IT administrators to define protection and recovery policies appropriate to business application SLAs, enabling a more service-oriented approach to disaster recovery (DR).

3. What are the key distinguishing features of FalconStor CDP, and how will they better protect my data and optimize DR?

- **Heterogeneous support:** FalconStor CDP runs on Linux, an open-source operating system. It supports a wide range of industry-standard hardware and software and can scale to protect large, heterogeneous storage environments. FalconStor CDP protects database, email, and file server systems from market leaders including Microsoft, Oracle, IBM, and Sybase. This flexibility and broad support enables easy integration with an existing infrastructure without disrupting operations and without the vendor lock-in often associated with other providers.

- **TimeMark® snapshots:** Enable the creation of periodic, scheduled, or on-demand point-in-time delta snapshot copies of data volumes. These delta snapshots contain only changed data and, as such, use minimal disk storage space. Up to 1,000 delta snapshots can be maintained per volume.

- **TimeView® images:** TimeMark technology includes the TimeView feature, which creates an accessible, mountable delta snapshot image that allows administrators to freely create multiple and instantaneous virtual copies of an active data set. The data set and/or replica copies can then be assigned to multiple application servers with read/write access for concurrent, independent processing, all while the original data set is actively accessed and updated by the primary application server.

- **Application-aware snapshot agents:** Ensure full protection for active databases such as Microsoft SQL Server, Oracle, Sybase, and DB2, and messaging applications such as Microsoft Exchange and Lotus Notes. FalconStor snapshot agents work seamlessly with replication and TimeMark technology. A group snapshot feature ensures transactional integrity of databases across multiple storage volumes.

- **WAN-optimized replication:** Used to replicate data via IP to a local data center or remote disaster recovery site. It uses MicroScan, a patented technology that eliminates exaggerated block-level changes due to inefficiencies at the application and file system layer to minimize the data transferred. Only real changes at the granularity of disk-sector level (512-byte) are transferred. Replication also includes built-in data encryption for enhanced data security during transmission.

- **Automated disaster recovery:** RecoverTrac™ technology supports service-oriented data protection by providing automated recovery of critical business application servers and data, allowing recovery for any service, any time, any place. RecoverTrac technology can use any combination of supported physical and virtual machines for any-to-any recovery including P2P, P2V, V2V, or V2P between similar or dissimilar machines. Through the open architecture of FalconStor CDP, RecoverTrac technology supports heterogeneous environments, eliminating costly vendor lock-in and maximizing ROI by leveraging existing hardware.

- **Mirroring:** Provides block-level data mirroring across any disk system regardless of vendor/ brand, disk type, or connectivity (Fibre Channel [FC], iSCSI, Fibre Channel over Ethernet [FCoE]). Data can be synchronized to a second storage device independent of the servers involved. There is no need for OS-specific host-based tools. Once the mirror is online, all future data is written simultaneously to both the primary volume and the mirror.

- **HyperTrac™ Backup Accelerator**: For organizations that require tape backup for regulatory compliance or corporate governance, the HyperTrac option increases backup speed, eliminates backup windows, and offloads processing from application servers. This option runs on the backup server, automatically initiating and mounting TimeMark snapshots when backup jobs are run.

- **Thin provisioning:** Allows provisioning of virtual storage that represents a higher capacity than is physically available. Physical storage is automatically allocated only when needed. This enables more efficient storage utilization. Thin provisioning can be applied to primary storage, replica storage, and mirrored storage.

4. **What are the components of the FalconStor CDP solution?**

FalconStor CDP is typically implemented as an out-of-band or side-band solution. Components include:

- **FalconStor CDP Server:** Provides journaling, snapshots, replication, mirroring, and data protection management services.

- **Server Console:** Comprehensive, graphical administration tool to configure all data protection services, set properties, and manage storage.

- **RecoverTrac technology:** A disaster recovery management tool that automates the complex and error-prone procedures necessary to resume IT business operations at a local or remote site. RecoverTrac technology has a familiar interface (similar to Microsoft Windows) with intuitive inventory definition, recovery job definition, testing, and execution functions.

- **Host-based data protection agents:** The DiskSafe™ agent is a host-based data protection agent that protects application server direct-attached storage (DAS) or SAN attached storage by mirroring data to the FalconStor CDP server or appliance. Disk mirroring may be continuous or periodic. DiskSafe agents may be used with a number of Microsoft Windows Server operating systems.

- **Application-aware snapshot agents:** Reside on application servers and ensure that active databases are fully protected. These snapshots ensure 100% data and transactional integrity through a robust and automated process that safely and reliably takes snapshots of databases for point-in-time recovery.

- **Client Console:** The Central Client Manager is a Java console that provides central management of client-side applications (DiskSafe, snapshot agents) and monitors client storage. The console can run on Microsoft Windows platforms and can be accessed from the central management console.

Learn more about FalconStor CDP

www.falconstor.com/CDP

5. **What storage vendors does FalconStor CDP support?**

FalconStor CDP storage appliances include built-in storage. FalconStor CDP gateway appliances and HA appliances support the widest range of disk arrays, including those from:

- Dell
- Fujitsu
- Hitachi
- HP
- IBM
- StorageTek

A complete Certification Matrix can be found at: **www.falconstor.com/matrix.**

6. **Which connectivity protocols are supported by FalconStor CDP?**

FalconStor CDP supports a variety of protocols including FC, iSCSI, and FC over Ethernet (FCoE) to deliver unparalleled performance across an organization.

7. **How many FalconStor CDP servers can I manage from one console?**

Users can manage as many as needed. The product's centralized console can manage multiple FalconStor CDP appliances, either individually or in groups, and allows administrators to perform comprehensive management tasks, including:

- Create virtual volumes to act as data protection mirrors or FalconStor CDP journal space
- Set TimeMark snapshot schedules and policies
- Set up replication and replication policies between FalconStor CDP devices
- Assign volumes to specific clients
- Set up connections to external storage devices (gateway models only)

8. **What kind of reports I can get with FalconStor CDP?**

FalconStor CDP includes a number of preconfigured reports that cover a wide range of information. For example, reports are available for data throughput, disk utilization, replication status and performance, physical configuration information, and disk resource distribution.

Reports can be saved in various formats: Comma delimited (.csv), tab delimited (.txt) text, Microsoft Excel spreadsheet (.xls), PDF (.pdf), or HTML (.html), and can be sent via email. Each report can be created for a specific server or for multiple servers in a group, and can be scheduled to run at regular intervals.

9. **What is the position of FalconStor CDP in the marketplace?**

FalconStor CDP is a highly scalable solution designed to meet the needs of organizations of all sizes, including small-to-medium businesses (SMBs), remote and branch offices (ROBO), midmarket organizations, and enterprises. All-inclusive FalconStor CDP storage appliances offer comprehensive data protection for SMB/ROBO and midmarket organizations. FalconStor CDP gateways, high availability (HA) appliances, and expansion units offer high performance, availability, and scalability for heterogeneous midmarket and enterprise environments. Virtual appliances support VMware environments.

10. **How many snapshots does FalconStor CDP provide?**

FalconStor CDP now enables you to store up to 1,000 snapshots per LUN. Only FalconStor CDP has the ability to take application-specific snapshots for a large library of mission-critical business applications as a standard feature. Of course, not every customer will need 1,000 snapshots, or want to buy and keep the associated disk capacity on a permanent basis. Therefore, FalconStor CDP provides intuitive wizards to schedule, keep/discard, and reclaim snapshot resource area volumes. Lastly, as the 'reclamation' process is a compute-intensive task, FalconStor CDP allows for flexible schedulings, eliminating any potential operational disruptions.

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11. **What is the maximum LUN size?**

As data volumes grow, so too must corresponding storage volumes. For this reason, FalconStor CDP now supports 64TB LUNs. This is a key differentiator, as most competitors only support 16TB LUNs. (For example, the maximum LUN size of the EMC CX4 is 14TB.) This enables integration with VMware vSphere v5, which supports 64TB LUNS, for much higher VM density on VMware ESX Server hosts.

12. **Does FalconStor CDP support the SNMP protocol?**

Yes. Network management systems such as Tivoli, CA, CiscoWorks, and BMC operate on the standard SNMP protocol, which enables management centralized view of various IT network resources (servers, switches, storage) for optimized utilization, identification and mitigation of bottlenecks, and management. As such, FalconStor CDP includes SNMP support.

13. **How can we purchase FalconStor CDP?**

FalconStor CDP is available through system integrators and value added resellers (VARs) around the world. FalconStor CDP can be purchased as software, storage appliances, gateways, HA appliances, virtual appliances, and expansion units for scalability. Because the solution is available in a variety of formats, prices will vary. For more information, visit **www.falconstor.com/CDP**, contact your local FalconStor reseller, or call FalconStor at 1.866.NOW.FALC.

Download a free trial of the FalconStor CDP Virtual Appliance

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