

Safeguarding full availability of health information

BridgeHead RAPid for MEDITECH backup software with HPE disaster recovery and data protection solution

HPE 
GreenLake



Electronic health record (EHR) software plays an essential role in today's healthcare industry. EHRs are digital versions of patients' paper medical records, and they contain information about a patient's medical history, diagnosis, medications, allergies, laboratory and imaging results, and other essential health information. They offer healthcare providers quick and efficient access to patient data, enabling physicians and nurses to view a patient's medical history, diagnose conditions accurately, and provide personalized care based on the patient's unique needs. They also help reduce the risk of medical errors, which can lead to costly malpractice claims.

Because of the significance of these records, EHR software is the key software of a healthcare provider. If it goes down, it can significantly disrupt the delivery of care and the management of patient information as well as negatively impact reputation. In the worst-case scenario, the healthcare provider must shut down and cannot accept even emergency patients.

The HPE GreenLake edge-to-cloud platform brings the cloud experience—self-serve, pay-per-use¹, scale up and down, and managed for you—to apps and data everywhere, in edges, colocations, and data centers.

It helps you to free up capital, boost operational and financial flexibility, and support talent to accelerate what's next for you.

Business continuity solution for MEDITECH EHR

The solution described in this brochure introduces a business continuity, disaster recovery, and data protection solution for MEDITECH EHR environments provided by BridgeHead RAPid™ for MEDITECH software, Zerto Continuous Data Protection (CDP), and the HPE Data Protection portfolio. It delivers the following key advantages:

- Improves recovery-point objective (RPO) and recovery-time objective (RTO)
- Simplifies management
- Optimizes cost
- Protects against cybercrime

¹ May be subject to minimums, or reserve capacity may apply.



Solution components

BridgeHead RAPid for MEDITECH

BridgeHead RAPid Data Protection for MEDITECH offers a comprehensive solution that fully protects your MEDITECH EHR system and makes it recoverable in the event of a cyberattack, system outage, data corruption/loss, or major disaster.

For years, BridgeHead has worked in close collaboration with MEDITECH, and their products have been engineered to address these EHR-related challenges:

- How to overcome the challenges of creating a consistent backup of the MEDITECH databases
- How to reduce the stress of the backup load on overall system performance
- How to decrease the time required to back up the massive number of very small files generated by the EHR application

Software from Zerto, a Hewlett Packard Enterprise company

With Zerto, your EHR system is protected. If anything happens to your data, Zerto helps you recover it from the moment before the disruption—regardless of location. Zerto records data in a journal that is continuously updated to the second. When disaster strikes, no data is lost, and getting the backup online takes only minutes.

The main components of the Zerto solution are the **Zerto Virtual Manager (ZVM)**, the **Virtual Replication Appliance (VRA)**, and the **Virtual Protection Group (VPG)**, created on the ZVM to manage the replication of applications and databases. The VPG is the application group that defines the VMs and data to be replicated as well as the information needed for recovery. In the case of MEDITECH EHR software, the VPG includes the VMs running the MEDITECH file servers.

Zerto Virtual Manager

The ZVM is the main management tool for setting up and maintaining continuous replication of applications and databases (MEDITECH application). It can be used to manage and monitor the activity of the defined replication processes. On the main ZVM dashboard, you can monitor the health status to confirm that you are meeting solution service-level agreements (SLAs) and the RPO of the components in the VPGs.

Virtual Replication Appliance

The journals are attached to the VRA on the chosen recovery host for each VM. The checkpoints are stored in the journal for the duration of the defined journal history SLA within the VPG settings. The checkpoints are created by a continuous synchronization process between the source and target VRAs as well as the ZVM.

As the replication occurs, Zerto continuously monitors and maintains the defined RPO. Zerto takes checkpoints as fast as possible, typically every 5 to 15 seconds. You can establish specific checkpoints by using the GUI interface or by scripting. The replicated data is written to a journaling system and is eventually updated to disk.

HPE Data Protection portfolio

Modern data protection products from HPE enable you to simplify operations, meet demanding SLAs, and neutralize damage from threats.



HPE StoreOnce backup appliances

The HPE StoreOnce backup appliances provides a built-for-cloud data protection platform that can scale from small remote offices to the largest enterprises and service providers. With its HPE StoreOnce Catalyst, it provides a single high-performance backup architecture that spans the entire enterprise.

It can reduce the amount of backup data you need to store by 95%² and offers a choice between powerful dedicated appliances for data centers and flexible virtual appliances for smaller deployments.

With industry-leading backup-and-restore speeds, you can meet shrinking backup windows and recovery SLAs. HPE StoreOnce enables you to deduplicate anywhere and control data movement across the enterprise by using your backup application (including BridgeHead). With HPE Cloud Bank Storage to cloud enable your current backup and business applications, HPE StoreOnce systems provide even more flexibility to reduce cost, risk, and complexity.

HPE StoreOnce Catalyst protects backup copies from exposure to ransomware. The server-controlled data immutability feature provides an additional layer of security by preventing backup applications from modifying or deleting HPE Catalyst items during the immutable period.

HPE StoreEver Tape Storage

With HPE StoreEver Tape Storage, featuring ultra-low total cost of ownership and air-gap protection against ransomware and data corruption, you can create a last line of defense against cybercrime.

Solution overview

BridgeHead has created an integration that leverages Zerto CDP to provide an improved disaster recovery solution for MEDITECH EHR environments. It delivers an RPO of seconds and an RTO of minutes.

Figure 1 shows a simplified MEDITECH EHR environment. In this environment, business continuity, disaster recovery, and data protection are managed by BridgeHead Software and Zerto.

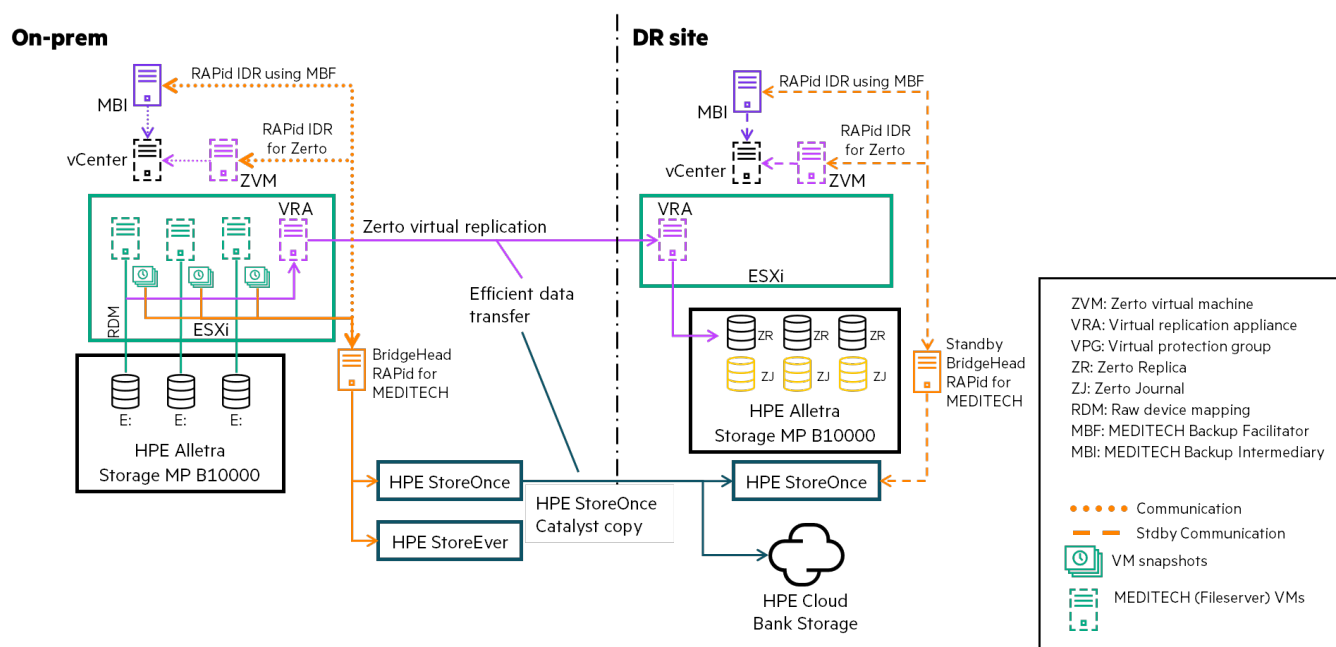


Figure 1. BridgeHead Software and Zerto Virtual Replication architecture for MEDITECH EHR

² Assuming a deduplication ratio of 20:1 as compared to a fully hydrated backup, based on the standard deduplication ratio of 20:1 as compared to a fully hydrated backup.

Zerto CDP replicates data between two VMware vSphere® environments. Each environment uses MEDITECH file servers and the Zerto VRA. A separate VM runs the ZVM, the management and orchestration components of Zerto. Each site must have a ZVM because there is a 1:1 relation between VMware vCenter® instances and ZVMs. Zerto is hardware and storage agnostic to enable deep infrastructure flexibility. This example uses MEDITECH SAN-certified HPE Alletra Storage MP B10000.

It is important to mention in this context that BridgeHead Software together with Zerto delivers a MEDITECH-approved solution.

For disaster recovery and data protection, this solution leverages BridgeHead RAPid for MEDITECH to integrate with MEDITECH Integrated Disaster Recovery (IDR) and Integrated Serverless Backup (ISB):

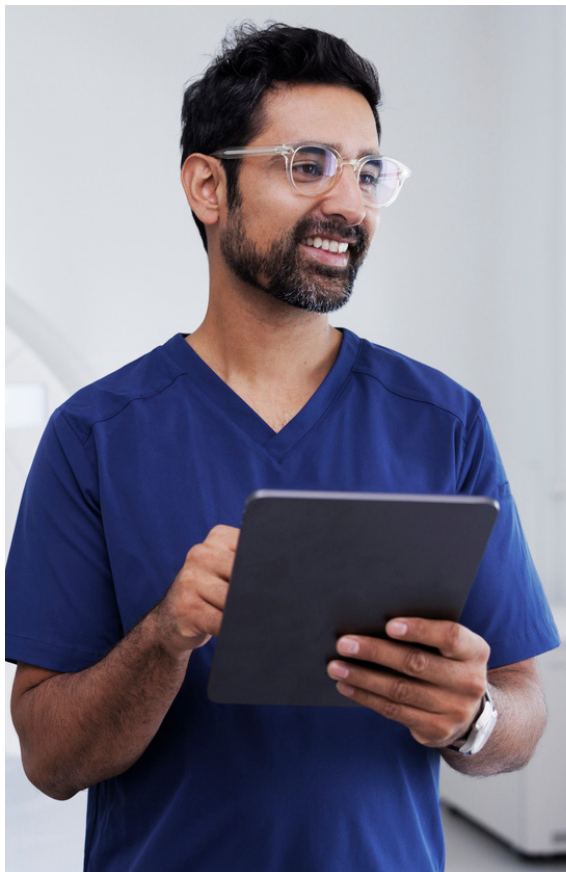
- The IDR is used to create application-consistent point-in-time copies within the storage array itself and to create application-consistent Zerto checkpoints, which are space-efficient storage array snapshots that can be used for quicker data recovery options.
- The ISB agent is used to create backup copies that are not stored on the same array. After an IDR snapshot is successfully created, it is presented to the BridgeHead backup server, and the backup is written to an HPE StoreOnce backup appliance by using the space- and network-efficient HPE StoreOnce Catalyst API.

HPE StoreOnce Catalyst is a data protection-optimized interface unique to HPE StoreOnce backup appliances, which send only new unique data to HPE StoreOnce (source-side deduplication) for fast, efficient data transfer to the HPE StoreOnce backup appliance. It integrates with BridgeHead Software, enabling it to manage further backup copies to a secondary HPE StoreOnce or cloud provider through HPE Cloud Bank Storage.

Offer an uncompromised copy for your recovery

Cybercrime, including ransomware, significantly challenges data protection across many organizations and recovery processes. Connected backup and recovery might not be enough to counter the evolving threat and reduce network exposure. By using HPE StoreEver LTO technology and BridgeHead Software, it is possible to create an air gap, a physical security barrier that prevents hackers and cybercriminals from being able to access the data remotely. For example, weekly full backups are copied to an HPE StoreEver tape library; after the copy is finished, cartridges must be taken out of the tape library to be fully offline. If any of the primary systems and backups are encrypted during a cyberattack, a clean copy of data that has been kept fully offline is available. HPE StoreEver tape systems deliver isolated recovery capabilities at scale and hyperscale, at an ultra-low cost per GB.





Conclusion

Data loss or major system outages create a huge problem in healthcare. IT managers for healthcare providers face significant pressure in disaster recovery and protection to handle and keep up with the always changing and growing environment, increasing expectations to be always on and the need for protection against vulnerabilities.

The solution described in this paper, using BridgeHead Software and Zerto and HPE solutions from HPE for MEDITECH EHR, can handle the aspects of business continuity, disaster recovery, and data protection—from improved RPO and RTO to disaster recovery and data protection (including ransomware protection)—while still being easy to use.

Because BridgeHead Software supports MEDITECH-certified SAN storage arrays and because Zerto is agnostic to storage, this solution can protect MEDITECH environments that use MEDITECH-certified SAN storage arrays.

Resources

- [BridgeHead RAPid for MEDITECH](#)
- [Zerto disaster recovery solution](#)
- [HPE StoreOnce backup appliances](#)
- [Healthcare and Life Sciences IT Solutions](#)
- [HPE StoreEver Tape Storage](#)
- [Zerto Delivers Healthy Disaster Recovery Strategy for Canton-Potsdam Hospital](#)
- [HPE GreenLake](#)

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