



Data Sheet

Integrated Serverless Backup (ISB) and Integrated Disaster Recovery (IDR)

JJWild designs, integrates, tests, documents, and supports high-performance data protection solutions utilizing MEDITECH's Integrated Serverless Backup (ISB) and Integrated Disaster Recovery (IDR). ISB reduces backup and recovery times for traditional tape backup or backup-to-disk (B2D), while IDR is an effective tool for reducing both the recovery point objective (RPO) and total recovery time objective (RTO) in many types of disaster recovery and operational recovery scenarios.

Solution Highlights:

- Rapid and predictable MEDITECH recovery from either tape (ISB) or disk (ISB/IDR) deliver significantly improved Recovery Point and Recovery Time Objectives
- Increased MEDITECH performance as:
 - MEDITECH servers no longer maintain multiple copies of the database
 - OSAL servers do not spend CPU cycles and other resources on backup
 - MEDITECH applications are not impacted by backup processes
- Improved reliability of backups since automation of backups and replication can be configured to be fault tolerant
- For the first time, ISB allows MEDITECH MAGIC hospitals to incorporate their MEDITECH systems into an automated, enterprise backup strategy
- Better leverage of SAN technologies
 - Offloading of storage management overhead from MEDITECH servers
 - Leverages BCVs, clones, and snapshots
 - Image-based backup and block-level data transfers allow for faster backup and restore—especially for EMR systems
- Proven solution deployed at over 200 MEDITECH sites with on-staff, certified installation and support engineers

Integrated Serverless Backup (ISB)

Designed to improve the daily backup process, capitalize on enterprise backup strategies and capabilities, and unburden the MEDITECH systems from the workload of backup, ISB changes how MEDITECH data and storage management features are deployed.

Using ISB technology from either BridgeHead Software (HT Backup/ISB) or EMC Software (NetWorker), “serverless” backup processes no longer run on or are controlled by the MEDITECH hosts. Rather, the entire backup process, as well as communication between MEDITECH and the storage array is controlled by the BridgeHead or EMC NetWorker software located on a backup server. The data to be backed up is located on a hospital's Storage Area Network (SAN) and is transported directly to the backup medium using native SAN-controller utilities once point-in-time copies have been captured and all prerequisites are met (see step-by-step process on p. 2).

Beyond the native capabilities of the technology, multiple opportunities for efficiency exist, including leveraging high-performance removable storage devices and deploying multiple backup servers to achieve parallel processing for maximum throughput. Simply put, ISB takes MEDITECH backup into the future where it belongs, and allows hospitals to build robust Healthcare Operational Continuity (HOC) strategies using this technology as a baseline.

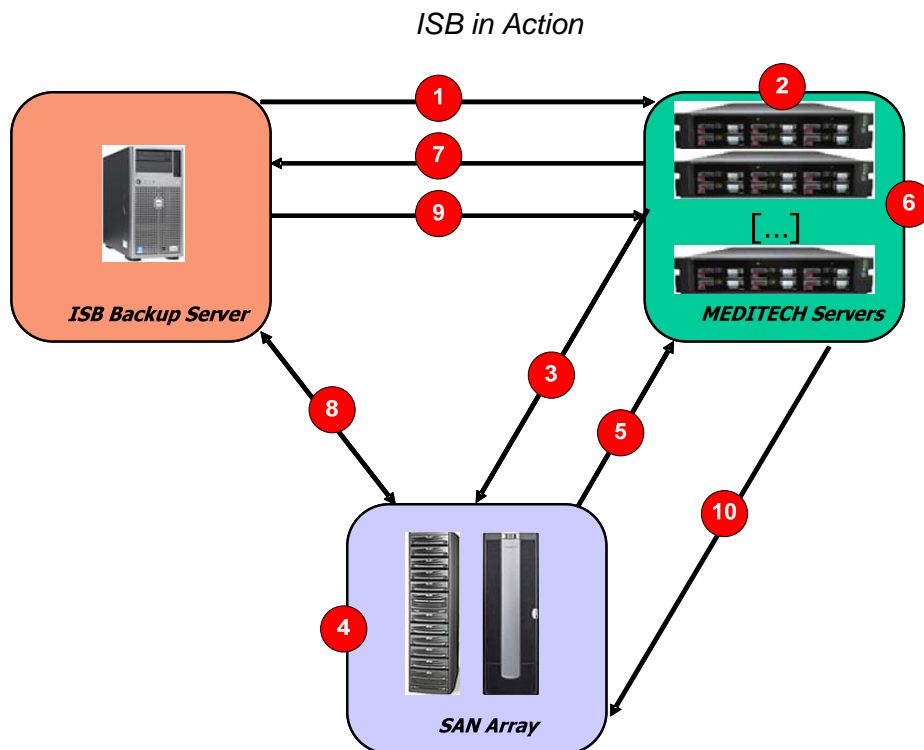
How to Prepare for MEDITECH ISB

Data must be migrated to a MEDITECH-approved SAN before ISB is to be installed. JJWild has developed best practices around data migration and SAN configuration that will help optimize solution performance. Preparations can begin via our solution design efforts and coordination by JJWild project leadership resources.

A 10-Step Overview on How ISB Works

BridgeHead and EMC backup software communicate with MEDITECH via an API that supports MAGIC and Client/Server applications, and their respective SAN platforms. ISB processes direct the SAN to create a Point-in-Time Copy (PIT-C) for MEDITECH data. The following steps describe the ISB process:

- Step 1:** A backup request is generated from the ISB Backup Server and passed to MEDITECH.
- Step 2:** MEDITECH quiesces its database so that a consistent image state is available at the point in time that the backup was requested. All user and application sessions remain online.
- Step 3:** MEDITECH requests a PIT-C from the storage array.
- Step 4:** The storage array uses BCV, clone, or snap technology to create the PIT-C.
- Step 5:** The storage array communicates the storage addresses for any PIT-Cs created to MEDITECH,
- Step 6:** MEDITECH resumes database operations (total time elapsed may be imperceptible to under five seconds),
- Step 7:** MEDITECH supplies the ISB application with the PIT-C volume information,
- Step 8:** The ISB application creates a backup and writes a saveset to tape or other media,
- Step 9:** The ISB application informs MEDITECH that the backup is complete,
- Step 10:** The storage array recycles clone/snap or resyncs the BCV depending on the design,



Integrated Disaster Recovery (IDR)

Born from the realization that frequent Point-in-Time Copies (PIT-Cs) of MEDITECH data could be copied elsewhere and used for recovery purposes outside of standard ISB backup, IDR was introduced to allow frequent and automated replication of PIT-Cs as an alternative to backup to tape. IDR allows users to create very recent spare copies of their MEDITECH data on alternative disk volumes, thereby further enabling reductions in both RPO and RTO.

The process of executing IDR replication is similar to ISB backup with the exception that once the point-in-time data has been prepared, a replication job is run in place of backup. The difference between replication and backup is that IDR replicas are copied to an alternate disk volume without the saveset packaging of ISB. Depending on the type of disk used for the IDR targets, this generally means that the user can actually mount and access the IDR replica itself, achieving operational or disaster recovery in a matter of minutes.

Why JJWild for ISB/IDR?

JJWild has hosted and participated first-hand in the integrated solution testing and validation efforts involving MEDITECH, BridgeHead, EMC, HP, and IBM that have led to the finalization of the ISB/IDR solutions. Leveraging our multi-vendor Solutions Lab and a JJWild Product Development team that is singularly focused on solution development for MEDITECH hospitals, we regularly conduct testing to review ISB and IDR performance parameters, design guidelines, and common use-cases and document best practices. Our product and technology teams conduct regular field reviews of existing ISB/IDR deployments to ensure that ISB/IDR solution designs are optimized for success.

As a long-standing MEDITECH business partner, our commitment to them, to our ISB/IDR partners BridgeHead and EMC, and to all MEDITECH hospitals is to continue to provide and continually improve upon our

- Thoughtful solution design
- Experienced solution deployment
- Effective solutions testing and documentation
- Expert solution support

We welcome the opportunity to be of service to MEDITECH organizations as they develop their IT and HOC strategic plans and take the critical steps of implementing SAN, ISB, and IDR technologies. If you have any questions, please contact us at JJWild.

Other Healthcare Operational Continuity Solutions and Services from JJWild

Healthcare Operational Continuity Assessment

Many customers find that they need help calculating risk, analyzing business impact, assessing their technology infrastructure, and sorting out options with regard to business continuity. In a streamlined process that touches the key elements of a successful IT continuity plan, JJWild can help you assess your options and focus on the best course of action for your unique circumstances.

JSite

JJWild's secure, fully managed disaster recovery service is the first of its kind, dedicated to supporting MEDITECH hospitals. JSite uses state-of-the-art servers, SAN storage, and tape technology to map to your organization's recovery needs and specializes in ISB recovery.

Self-Hosted Disaster Recovery

Some customers prefer to own end-to-end disaster recovery facilities of their own with design, implementation, and disaster recovery operations help from an experienced partner such as JJWild. Whether your interest is in off-site spares, MEDITECH's Integrated Disaster Recovery (IDR), or live SAN Mirroring, JJWild offers a broad range of solutions and services for facilities pursuing this option.

Network Connectivity Assessment

Whether subscribing to a managed service for disaster recovery, or building and outfitting your own recovery facility, a critical component of your day-to-day production environment and recovery strategy is a sufficiently robust network infrastructure. JJWild will put to work over 20 years of network infrastructure and MEDITECH expertise to ensure that your hospital is properly equipped to take advantage of its disaster recovery capabilities.

MEDITECH Recovery Procedure and Test Plan Development

Whether you host your own disaster recovery systems or subscribe to JSite, you will need to create, maintain, and test a detailed plan which would allow even inexperienced staff to launch and manage the MEDITECH Recovery Process. JJWild can help you create your recovery procedure and test plan documents and update them on an annual basis.

Departmental Downtime Documentation

If disaster strikes, it is important that your departments have a carefully-developed plan which guides them through temporary operational changes while systems are down and helps them manage the flow of information when systems are restored. Our expert consultants will help create or edit your own unique documentation to keep things running smoothly during an IT downtime. An annual update service ensures that your plans remain fresh and timely.