BRU Server™ Client/Server Backup and Recovery Software Version 2.0.6, released September 20, 2018

BRU Server™ v 2.0.6 is TOLIS Group’s premier network backup software solution that provides client/server-based data backup and recovery services across networks of any size, and any client industry type to LTO, disk, or cloud, including regulatory compliance. All major client system OS platforms are supported, as well as live database back-up on Windows (server and client) systems. BRU Server™ brings ease-of-use with cross platform graphical interfaces, client-side options, and more!

PRODUCT HIGHLIGHTS

Graphical User Interfaces control BRU Server from macOS (10.5-10.14), Linux, and Windows® systems
User Initiated Client-Side Backup for Desktops and Laptops (not dependent on any admin-specified backups) on Windows, macOS, and Linux
User Initiated Client-Side Restore (not dependent on any admin action) on Windows, macOS, and Linux
Full Support of ACLs and extended attributes on macOS and Linux clients
Available as software only, or combined with BRU Server™ ArGest® Hardware/Software Bundles, as well as integrated on the bruAPP™ private cloud-based appliance
Upstage for Offsite - Expands D2D2T to Allow copying staged archives to tape for sending offsite while retaining the local copy on disk
Support of Single Archives up to Eight (8) Exabytes (8,388,608 gigabytes) in size
Live Database Backup
Archives are Backwards Compatible with all previous BRU Server versions and are also recoverable by any BRU product, on any platform BRU supports
Flexible Disk Staging provides Disk-to-Disk (D2D) and Disk-to-Disk-to-Tape (D2D2T) support
Off-Site Storage Services including backup to cloud accounts
Comprehensive Native Tape Device Support
100% Coverage of All macOS Filesystem Attributes including resource forks, finder® information, and All Unix permissions
Backups 100% Verified as a background task which can dramatically reduce the backup window
Advanced Error Recovery Algorithms restore data when other tools fail
Simple Integration with SAN Including Apple’s Xsan technology
Virtual Machine Support - Guest file by file and Host Imaging supported

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Technical Support

W: http://www.tolisgroup.com/support.html
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BRU Server Technical Details

LEADERSHIP DATA PROTECTION
– Native macOS and Linux client/server backup software to LTO, disk, and cloud configurations
– Ultra-reliable BRU™ engine delivers industry-leading data protection reliability and ultimate restorability of the protected data
– Backups can be 100% verified without access to the original filesystems
– Anytime Verify™ and Inspect Mode backup verification options can be run as a zero impact process, freeing up the client systems faster
– Broad compatibility – backups can be verified on a different system, and even on a different platform
– Client-level user initiated backup and restore options
– Provides broadest macOS and Linux tape library support
– Data can be restored from any BRU backup data set without dependence on any special files contained on the server hard disk such as data sets
– Client-side data encryption provides secure communication between client systems and the server
– Network traffic data compression is configurable and can provide better utilization of available network bandwidth

SEAMLESS SUPPORT
– Client system backups are not interleaved, thereby further shortening the time to restore selected client system files
– Properly backs up so-called “open files” under macOS and Linux
– No single archive size limitations up to 8 Exabytes
– There is no limitation to the size of the catalogs
– Integrates with SAN
– Remote log-in and administration, console can be run on any number of systems

BRU SERVER SUPPORT OF TAPE TECHNOLOGY
– Compatibility with all SCSI, SAS, Fibre Channel, and iSCSI, tape drives
– Compatibility with most tape technologies (i.e. LTO, DLT, AIT, others)
– Compatibility with all SCSI, SAS and Fibre Channel libraries containing any number of tape drives
– Supports any number of tape slots in a library (libraries over 100 slots require the Large Library add-on module)
– Fully supports Virtual Tape Libraries (VTL)
– The ability to define “Destinations” as a fixed set of slots
– The assignment of Destinations from a pool of free slots as needed
– The allocation of slots within a tape library in an arbitrary manner
– Ability to define and exclude sets of tape cartridge slots from use
– Ability to write concurrent, non-interleaved data streams to multiple tape drives within a tape library.
– Support of variable block mode to allow modern tape drives to achieve their maximum performance potential
– TapeAlert™ to monitor and report connectivity issues, dirty tape drives, bad tape drives, and bad tapes
– Automatically inserts a tape cleaning cartridge into a tape drive in a tape library
– Alerts users to manually insert a cleaning cartridge into a standalone tape drive
– Tape bar code reader support
– Unique Drive Autobalancing™ that spreads loads across multiple drives within a library to assure enhanced library hardware uptime
– An efficient data layout on tape to optimize utilization of tape cartridge capacity
– Support of tape WORM (Write Once Read Many) technology

FLEXIBLE BACKUPS AND RESTORES
– Flexibility to define how the backup operation should be performed because very few sites have the same backup requirements
– Lights-out, automated backup operations are scheduled from the user interface
– Transport layer agnostic—Fibre Channel, SAS, SCSI, iSCSI, Gigabit Ethernet, Wireless LAN, etc.
– Provides data backup and restore services within NAS, SAN and wireless environments
– QFA (Quick File Access) provides fast access to files contained on the tape device
– Files and directories can be excluded from the backup from the client system (excluding mp3 files, for example)
– Smart Restore™. Restore active shared library and executable binary files without crashing the system.

EASY-TO-ACCESS SUPPORT
– Backup Assistance Hotline. If you need assistance, we’re here to help. Expert technical support FREE for the first 30 days, renewable in low-cost, one-year increments.
– Annual support agreements provide unlimited WebEx, phone, and e-mail support as well as free updates and special discounts on product upgrades/crossgrades.
**BRU SERVER SYSTEM REQUIREMENTS macOS**

Minimum Requirements
- macOS 10.9 to 10.14 (Mojave)
- G4 or better Processor
- 512 MB RAM
- All transport layers are supported (SCSI, SAS, Fibre-Channel, USB, and Firewire)

Recommended System Configuration
- macOS 10.9 through 10.14 (Mojave)
- 1 GHz G5
- 512 MB RAM
- TOLIS Group HighPoint 4522 or ATTO Technologies SAS HBA (for SAS Tapes/Libraries) R680 or H680 (up to LTO-6 only recommended)
- ATTO Technologies Celerity FC HBA (for Fibre-Channel Tapes/Libraries) or a FC switch if using Apple FC HBA.

Disk Requirements
- BRU Server, 55 MB of disk for full install (server software, user interface, server agent)
- 15 MB of disk on client systems
- 3 MB of disk space for catalogs on the server per 100,000 files backed up
- Disk staging: disk requirement defined by administrator

Network Requirements
- BRU Server requires ports 14441 to 14450 be open for bi-directional TCP traffic

**BRU SERVER SYSTEM REQUIREMENTS LINUX**

Minimum Requirements
- LinuxX86 operating system (libc2.1 or libc2.3)
- 2.4.25+ or 2.6.13+ kernel
- 1 GHz processor
- 256 MB RAM
- All transport layers are supported (SCSI, Fibre-Channel, USB, and Firewire)

Recommended System Configuration
- 2.4.29 or 2.6.16+ kernel
- 1.5 GHz processor
- 512 MB RAM
- TOLIS Group HighPoint 4522 or ATTO Technologies SAS HBA (for SAS Tapes/Libraries) R680 or H680
- ATTO Technologies Celerity FC HBA (for Fibre-Channel Tapes/Libraries) or a FC switch

Disk Requirements
- BRU Server, 55 MB of disk for full install (server software, user interface, server agent)
- 15 MB of disk on client systems
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Network Requirements
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**BRU SERVER CLIENTS**

- macOS Server 10.9 through 10.14 (Mojave)
- Virtually all Linux Distributions
- Solaris x86 / Solaris SPARC
- FreeBSD
- OpenBSD
- SCO OpenServer
- AIX
- IRIX
- HP-UX
- Windows 7
- Windows 8
- Windows 10
- Windows Server 2003+
- Windows Database Applications such as Oracle, SQL, Exchange, etc...require the BRU Server Open File Manager Ad-On

**SUPPORTED VIRTUALIZATION SOFTWARE**

- Parallels – SWsoft Certified
- VMware
BRU Server™ Hardware/Software bundles LTO-5 through LTO-8

All BRU Server™ hardware bundles include new (not gray market or refurbished) tape devices, media, SAS HBA, all required SAS cables (Fibre channel HBAs available for additional cost, customer uses own Fibre cable in Fibre configurations), as well as BRU Server software. Software support for Linux and MacOS 10.9 through 10.14, and Windows as clients.

All technical support for the bundled hardware is provided directly by TOLIS Group Technical Support, eliminating the need for the consumer to contact multiple manufacturers for help. Instead, one phone call to TOLIS Group Technical Support for all components, when purchased as a bundle, provides you with technical support for all of the purchased hardware and software.

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**SAS Standalone Bundles**

**BRU Server™ ArGest® Small Office Standalone Models, Desktop or 1U Rack**
One or two drive LTO-8, LTO-7, or LTO-6 integrated into ArGest® Quiet Desktop Cube or 1U Rack, SAS cable, HBA, media, BRU Server™ software

**BRU Server™ ArGest® Small/Medium Office Automation**
One 8 slot, single drive LTO-8, LTO-7, or LTO-6 autoloader, SAS cable, SAS HBA, media, BRU Server™ software. Also available with Fibre Channel configurations

**BRU Server™ ArGest® Medium Office Library**
One 24 slot, single drive (expandable to two drives) LTO-8, LTO-7, or LTO-6 library, SAS cable, SAS HBA, media, BRU Server™ software. Also available in Fibre Channel configurations.

**BRU Server™ ArGest® Business Class FLEX Library**
One 40 slot, single drive (expandable to up to 21 drives and 280 slots) LTO-8, LTO-7, or LTO-6 library, SAS cable, SAS HBA, media, BRU Server™ software. Fibre channel configurations also available.

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**SAS Automation Bundles**

**BRU Server™ ArGest® Flex PLUS 80 to 540 Tape Slot Libraries**
Expandable, stackable units - up to 7 total units - that take you from 80 to 540 total tape slots, and from 1 to 42 total tape drives. This solution allows the user to start small and grow over time. SAS units ship with SAS cable, SAS HBA, media, BRU Server™. Fibre channel customer should use approved FC HBA/ Switch. LTO-8 through LTO-6 is available.
BRU Server™ Hardware/Software bundles with DAM/MAM

Bundles include LTO hardware, BRU Server™ software, CatDV software and DAX Broadcast Archive software for maximum DAM/MAM flexibility and workflow.

All hardware and software items in the bundle are supported in a single point of contact with TOLIS Group, Inc.

**Standalone w/ DAM/MAM**

**BRU Server™ ArGest® Small Office Standalone Models with DAM/MAM**
One or two drive LTO-8, LTO-7, or LTO-6 integrated into ArGest® Quiet Desktop Cube or 1U Rack, SAS cable, HBA, media, BRU Server™ software, CatDV software and DAX Broadcast Archive Software configurations.

**Automation w/DAM/MAM**

**BRU Server™ ArGest® Small/Medium Office Automation w/ DAM/MAM**
One 8 slot, single drive LTO-8, LTO-7, or LTO-6 autoloader, SAS cable, SAS HBA, media, BRU Server™ software, CatDV software and DAX Broadcast Archive Software configurations.

**BRU Server™ ArGest® Medium Office Library w DAM/MAM**
One 24 slot, single drive (expandable to two drives) LTO-8, LTO-7, or LTO-6 library, SAS cable, SAS HBA, media, BRU Server™ software, CatDV software and DAX Broadcast Archive Software configurations.

**BRU Server™ ArGest® Business Class FLEX Library w/ DAM/MAM**
One 40 slot, single drive (expandable to 21 drives and 280 slots) LTO-8, LTO-7, or LTO-6 library, SAS cable, SAS HBA, media, BRU Server™ software, CatDV software and DAX Broadcast Archive Software configurations.

**Flex PLUS 6800 DAM/MAM**

**BRU Server™ ArGest® Flex PLUS 80 to 540 Tape Slot Library w/ DAM/MAM**
Expandable, stackable units - up to 7 total units - that take you from 80 to 540 total tape slots, and from 1 to 42 total tape drives. This solution allows the user to start small and grow over time. SAS units ship with SAS cable, SAS HBA, media, BRU Server™ software, CatDV software and DAX Broadcast Archive Software configurations. Fibre channel customer should use approved FC HBA/ Switch. LTO-6 through LTO-8 is available.