

Swiss Banking A Customer Success Story



MAINFRAME DATA LIBRARY (MDL) (FORMERLY MAS) ENABLES REDUCTION IN PRIMARY DASD AND FACILITATES DISASTER RECOVERY

Helps meet Swiss legal requirements for data archiving – and does so simply and easily.

"The MDL was simple to put in place and is easy to use. The performance is good and we are sure that this MDL solution will continue to evolve to meet our changing needs. We had to ask Bus-Tech to make a change in the MDL so that we could use 8 character volume serial numbers and Bus-Tech made this change for us without any problems."

BENEFITS ACCRUED BY UNICIBLE

1. Immediate elimination of 3TB of primary DASD that was attached to the mainframes.
2. Sub-second access to data stored on an EMC Centera storage system, thus permitting this less expensive 2nd-tier storage to be used in place of more expensive primary DASD.
3. Permits DB2 ImagePlus, via the Object Access Method (OAM), to interact, in high throughput mode, with the EMC Centera content addressed storage (CAS), as if it is talking to a standard IBM 3480/3490, without having to be aware of the special data indexing interface used by the Centera.
4. 2nd-tier [i.e. tape level] storage mirroring every 30 minutes for DR.
5. Better data integrity, than possible with tape media, for long-term storage of fixed-content data.

Dominique Costantini & Fredy Eggenberger, technical lead Unicable IT services

Unicable IT Services is a leading provider of value-added IT services, 'one-stop' outsourcing and high-end IT technology to Switzerland's banking and financial sectors. In a country that is famed, more so than any other, for its sophisticated and refined banking and financial services, Unicable IT Services provides high-availability, 24x7 outsourcing and application hosting for **7** banks, **6** of which who also rely on Unicable for managing their 6,000(+) distributed workstations across 250 remote locations.

Unicable [www.unicible.ch], headquartered in Prilly (on Lake Geneva, close to Lausanne), was formed in 1992 by a group of large Swiss banks. Its charter was to provide these founding banks, as well as others, with top-of-the-range IT technology, outsourcing services and management solutions using shared equipment, facilities and personnel – thereby reducing IT costs for the client banks. Unicable, with revenues of US \$139M (168M Swiss Francs), has succeeded in meeting this objective and is enjoying sustained growth.

Unicable operates two large data centers (with IBM **z990** mainframes and high-end Unix servers), that produces over 60 million pages of reports and statements per year for their client banks. Exact copies of documents produced by the mainframes are maintained as images, using IBM's **DB2 ImagePlus**, as fixed-content data to meet legal requirements. This data, per Swiss laws needs to be retained for at

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least 12 years. Suffice to say, Unicable's storage needs, which are already in the multi-tera byte range continue to grow – rapidly and incessantly.

The Bus-Tech "TAPE-ON-DISK" **MDL**, brought to Unicable attention by their storage vendor **EMC**, enabled them to lower, and contain, overall storage costs by reducing their DASD needs. It also helped streamline and strengthen their hot standby, remote-site DR scheme. The MDL, moreover, enabled totally transparent mainframe to EMC **Centera** interfacing.

"For Unicable, the MDL combined with the EMC Centera is the best solution we have found for satisfying the Swiss legal requirements for data archiving. It is a good technical solution with a good ROI that has put us on the road to success"

Didier Gaud, Manager Unicable IT services

PROVEN ADVANTAGES OF THE BUS-TECH MDL "TAPE-ON-DISK"

1. Slashes data backup times by 50% or more.
2. Eliminates the need for tape cartridges and tape drives.
3. Minimizes potential for data loss due to tape media corruption.
4. Obviates the need for manual tape mounts and dismounts.
5. Automates and expedites DR.
6. Eradicates need for tape storage.
7. Extremely energy efficient when it comes to power and cooling needs.

MAINFRAME OPERATIONS AT UNICIBLE IT SERVICES

A simplified schematic of Unicable's dual data center mainframe configuration is shown below. The 7 client banks served by this configuration all rely on DB2-based applications. All of these applications, bar one, write new data directly to tape. The remaining application writes to DASD, but the data is then moved to tape after 3 months.

The MDL, as a "TAPE-ON-DISK" solution for mainframes, now enables Unicable to use content addressable EMC Centera disk storage, as if it was tape, *without any changes, whatsoever*, to the mainframe applications, DB2 ImagePlus or IBM's OAM access method for hierarchical data storage management. The MDL front-ended Centera appears to the applications as extremely fast and responsive tape units. The Centera's high performance content addressable technology requires the use of an EMC supplied API for reading/writing data. The MDL totally masks this API from the mainframe software. Instead, all the necessary software to use this API is integrated within the MDL 'microcode'. The MDL maintains the index pointers required to directly access data from the Centera as a DB2 database, using DB2 Connect. Since all the DB2 data is automatically mirrored at the backup site, in the event of a DR switchover the backup MDL can immediately start to access data, from either of the two Centeras, without hiccup.

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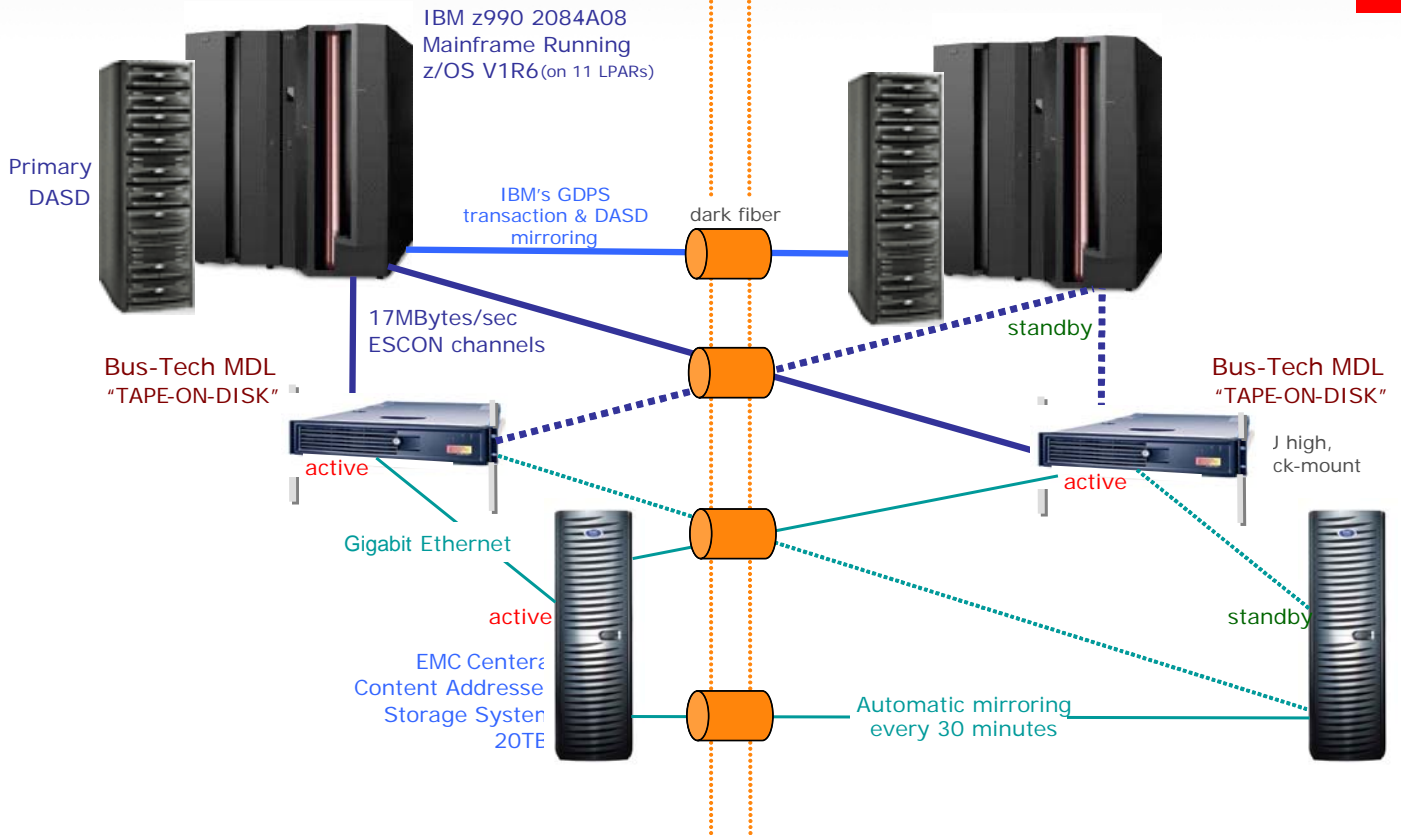


"Centre Administratif Bancaire" (CAB)
Data Center in Prilly, Switzerland

6 km
(3.6 miles)

St. Francois, Switzerland Data Center
used for hot standby disaster recovery

DR



"We have made this MDL plus Centera operation to archive our data per the Swiss legal requirements. The Centera proved to be the best solution, in our situation, to complete our needs. The MDL was the best solution we found to provide us with the necessary API that we could use, and continue to reuse, between our mainframes and the Gigabit Ethernet connected EMC disks."

Dominique Costantini & Fredy Eggenberger

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BUS-TECH MDL: KEY FEATURES

- ⊙ 2Gbps FICON Express or 17MBps ESCON channels for mainframe attachment – with alternate mainframe paths spanning up to 64 LPARs.
- ⊙ Emulates up to 256 IBM 3480/3490 tape drives per MDL.
- ⊙ Up to two (2), 2Gbps Fibre Channel Ports, Ultra 320/LVD SCSI, or dual 10/100/1000 Mbps Giga/Fast Ethernet for disk storage attachment.
- ⊙ 2U high unit that mounts on a standard 19" rack.
- ⊙ Supports IBM's Object Access Method (OAM) & is System Managed Storage (SMS) compliant.
- ⊙ Can be defined to a mainframe as a 3490 Manual Tape Library (MTL).
- ⊙ Works with IBM z/OS, OS/390 v2.4(+), VSE, VM/ESA or z/VM.
- ⊙ UIM definitions available for data center specific mainframe

MDL: A Unique Solution for Mainframe Storage

Unicable IT Services learned about the unique MDL/EMC Centera solution for high-performance, low-cost mainframe data storage from EMC. It appeared to be exactly what they needed to expedite their tape-based operations, strengthen their DR scheme and satisfy the stringent data integrity requirements dictated by Swiss financial laws. The deciding factor being that the MDL, with its specialized Centera integration feature, eliminated mainframe software from having to deal with the Centera's Content Addressed Storage (CAS) API for writing and reading data to/from a Centera.

With the MDL, Unicable would be able to exploit the Centera's renowned capabilities for secure, *legislation-complaint*, long term storage of fixed content data, without having to deal, in anyway, with the Centera API. The MDL is a virtual tape controller for IBM mainframes that modernizes tape-based mainframe operations by enabling all IBM 3480/3490 tape functions to be emulated using disk storage systems such as the Centera. Hence the designation "TAPE-ON-DISK".

With the MDL, Unicable could gainfully utilize Centeras for fixed content storage but do so with the mainframe software still thinking that it was dealing with standard IBM 3480/3490 tape units. It is a genuine, no downside, zero risk, win-win proposition for mainframe customers, like Unicable, that are looking for a proven, economical solution to ease the burden (and escalating cost) of securely maintaining their ever increasing volume of fixed content data.

Unicable first spoke with an MDL customer in France to determine that the MDL really did what it claimed it could do. They then agreed to evaluate a MDL, in-house, for 8 weeks. Prior to this they needed Bus-Tech to modify the MDL microcode so that it could support 8 character volume serial numbers. Bus-Tech obliged. The rest is history.

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MORE ADVANTAGES OF THE BUS-TECH MDL SOLUTION

- ⊙ Occupies considerably less data center floor space than tape solutions.
- ⊙ With no mechanical components (bar the cooling fans) a MDL is significantly more reliable and resilient than tape solutions.
- ⊙ Consistent, instantaneous mounting/demounting and 'positioning' [e.g. FF] of the emulated tape volumes.
- ⊙ Maximizes mainframe efficiency by expediting all tape related I/O functions thus freeing up time and capacity for other jobs, as shown at Grange Insurance.
- ⊙ Eliminates the inefficiency and cost of poorly utilized tape

MDL: Totally Transparent to Mainframe Applications

Unicable IT Services now has two MDL units, one at each of their data centers. Each MDL is attached via a 17MByte/sec ESCON channel interface to each of the two mainframes in order to satisfy DR switchover needs. During normal operations both MDL units are permanently active and are online to the z990 mainframe in the Prilly CAB data center. The ESCON interfaces to the St. Francois mainframe remain in standby mode. The Prilly mainframe uses both MDL units, in parallel, to read and write to its local 20TB Centera system.

Each MDL, in turn, has Gigabit interfaces to the two 20TB Centera systems – one in Prilly and the other, 6km away, at St. Francois. However, during normal operations only the Prilly Centera is deemed to be active. The St. Francois Centera is maintained in standby mode with automated data mirroring taking place between the two Centera systems every 30 minutes. [Refer to the diagram on page 2.] In the future, if the need arises, the dual ESCON, dual Gigabit MDL configurations in place at Unicable can be upgraded to support FICON channels to deliver added mainframe throughput.

The MDL, which was introduced in early 2002, is now a proven and popular alternative to mainframe tape offerings including automated tape library systems such as the IBM 3494-ATL or 3494-VTS. It is also considerably more cost-effective than a 3494 system. Though totally disk-based, the MDL provides a true emulation of IBM 3480/3490/3590 tape drives to the mainframe operating system, access methods and application software. Thus the "TAPE-ON-DISK" emulation performed by the MDL is totally transparent to the mainframe software even when used with Centera content addressable storage. This is the power and the beauty of the MDL solution – as attested to by Unicable IT Services. All tape-based I/O and processes continue to function exactly as before even though there are no tapes involved and all data storage and retrieval is now to/from fast, error protected disk storage.