

PLANNING FOR THE FUTURE

Db2 for z/OS

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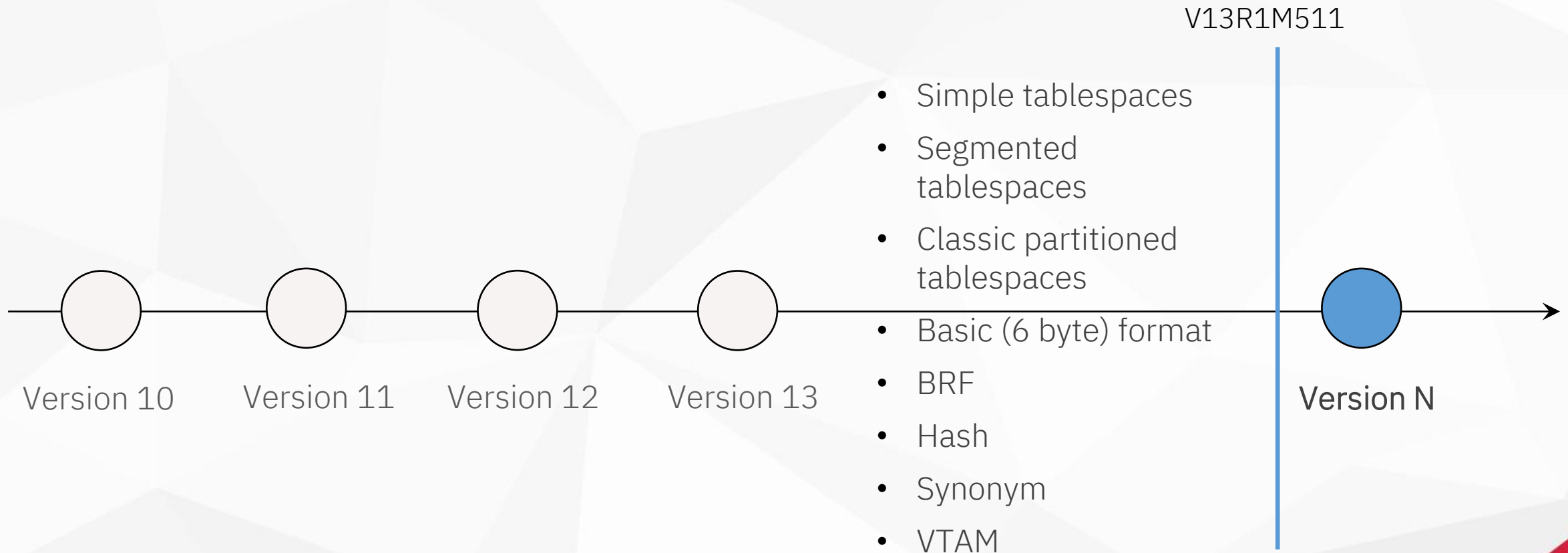
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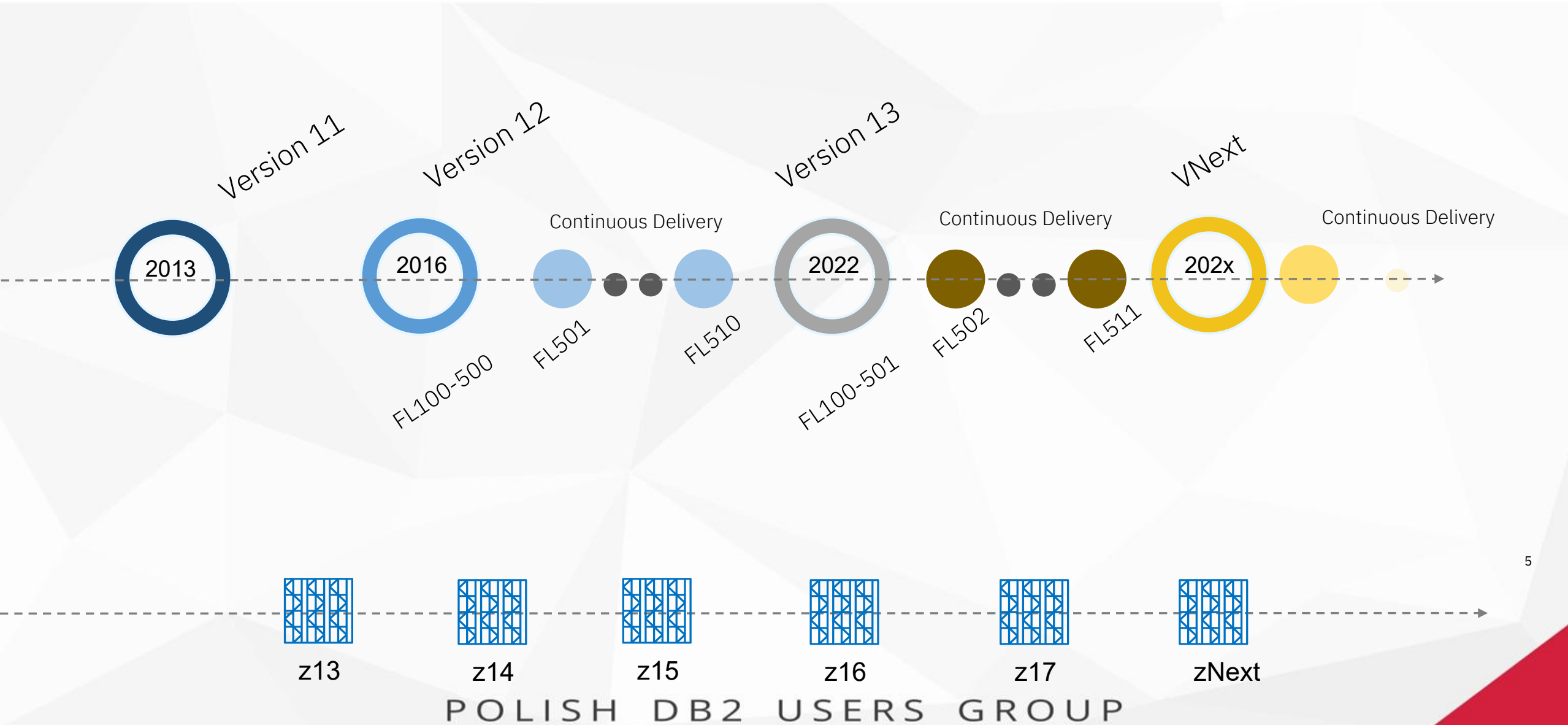
MAJOR THEMES FOR VNEXT

- » New foundation for future innovation
- » Simplification and automation
- » Scalability and performance

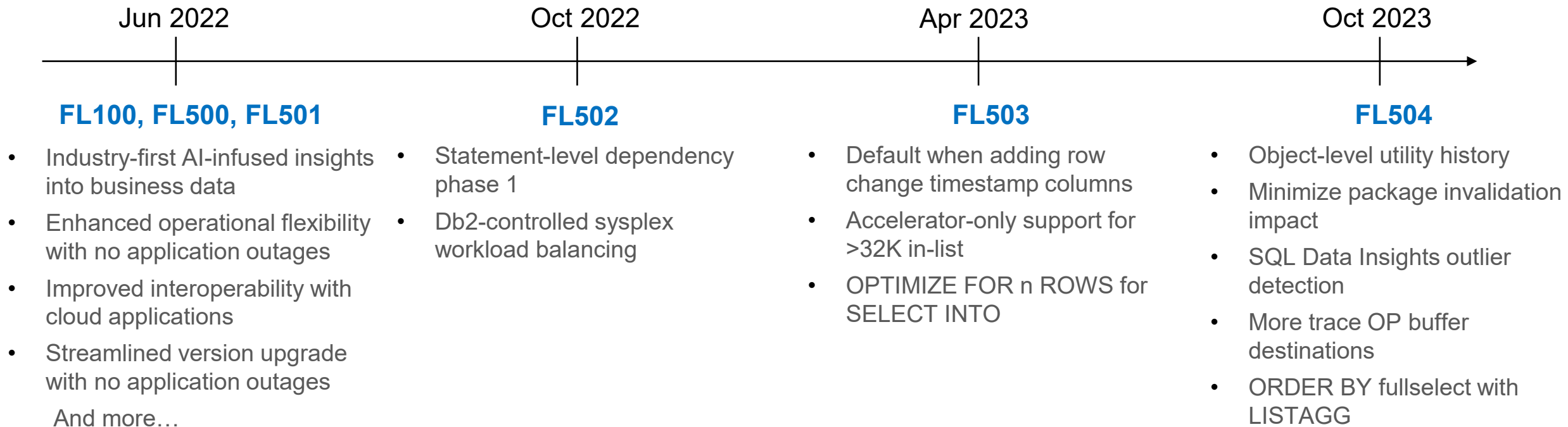
Past, Present and Future



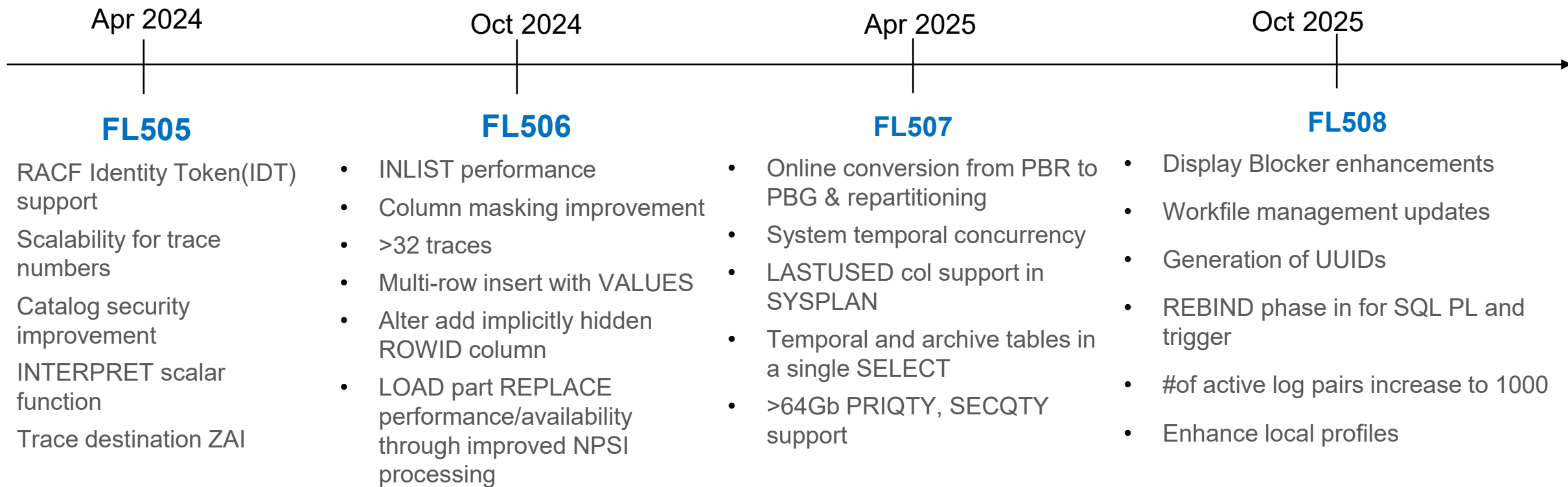
Db2 for z/OS Release Plan



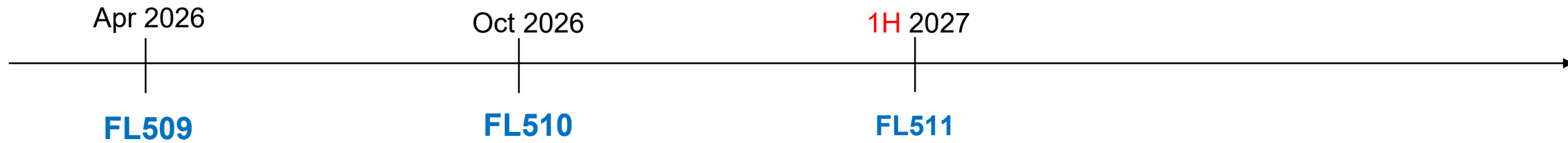
Db2 13 Continuous Innovation – Function Levels



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Db2 13 Continuous Innovation – Function Levels



- Convert remainder of catalog and directory to UTS
- Transfer ownership of SP, functions, etc
- Utility history SHRLEVEL
- I/O counts in RTS
- RLF filtering IP wildcarding
- STMT2_HASHID in catalog
- False lock contention reduction

• ...

- No new function

Removal overview

- » BRF tablespaces
- » 6 byte tablespaces and indexspaces
- » Simple tablespaces
- » Segmented tablespaces
- » Classic partitioned tablespaces
- » Hash organized tablespaces
- » Synonyms
- » VTAM

BRF conversion to RRF

- » Identify all pagesets that must be converted to RRF
 - » FORMAT column in SYSTABLEPART: blank = BRF, "R" = RRF
- » REORG or LOAD REPLACE
 - » ROWFORMAT BRF option ignored in V13
 - » RRF zparm no longer exists from V12 onwards
 - » Partition level conversion
- » If an EDITPROC or VALIDPROC exists on the table then it will not be converted to RRF
 - » Must remove EDITPROC or VALIDPROC, modify the proc and add it back after conversion to RRF
 - » Query EDPROC, VALPROC columns in SYSTABLES

6 byte format to 10 byte format

- » Identify all pagesets that must be converted to 10 bytes
 - » RBA_FORMAT column in SYSTABLEPART, SYSINDEXPART
 - » 'E' = 10 byte format
 - » 'B', 'U', " = 6 byte format
- » REORG, LOAD REPLACE, REBUILD INDEX to convert to 10 byte format
 - » RBALRSN_CONVERSION option ignored in V13
 - » UTILITY_OBJECT_CONVERSION zparm removed in V12
 - » Partition level conversion

What about undefined datasets?

- » Tablespace conversion for undefined tablespaces is immediate
 - » No REORG required
- » But there is no conversion for undefined BRF or 6 byte format pagesets
 - » REORG ignores undefined objects
- » Plan is to provide a new CATMAINT in 2026 to update catalog and DBD for undefined datasets

- » Convert to UTS tablespaces to take advantage of new features in Db2
 - » Simple and segmented tablespaces to PBG
 - » “Classic” partitioned tablespaces to PBR
- » PBG and PBR introduced in V9
- » PBR RPN introduced in V12
 - » 4096 partitions up to 1Tb per partition, 4Pb total size
 - » ALTER DSSIZE to increase partition size at partition level, no application impact, no REORG necessary
 - » ALTER to decrease DSSIZE remains a deferred tablespace-level alter
- » Be aware of red alert related to PBR RPN tablespaces before migrating from V12 to V13 or V13R1M100 to V13R1M500+

- » Single table simple or segmented tablespace to PBG
 - » ALTER TABLESPACE ... MAXPARTITIONS n
 - » REORG entire TABLESPACE

- » Multi-table simple or segmented tablespace to multiple PBGs
 - » ALTER TABLESPACE ... MOVE TABLE ... TO TABLESPACE...
 - » Rules apply, must be MAXPARTITIONS 1, DEFINE NO, etc
 - » Requires APPLCOMPAT V12R1M508
 - » REORG entire TABLESPACE

- » More open datasets
 - » z/OS 2.5 decreases memory footprint for open datasets
- » More OBIDs used
 - » Catalog queries provided to assist in planning
 - » Cannot move a table to a different database
- » Moving more tables means longer SWITCH phase for REORG
 - » Can move multiple tables in a single REORG
 - » Not wise to go beyond 100 tables at a time

Converting to PBR

- » Must convert from index-controlled partitioning to table partitioning first
 - » Table uses index controlled partitioning if IXNAME is filled in in SYSTABLEPART
 - » ALTER INDEX ... NOT CLUSTER
 - » Followed by
 - » ALTER INDEX ... CLUSTER
 - » Both ALTERs are immediate, no REORG required
- » Convert to PBR
 - » ALTER TABLESPACE ... SEGSIZE n
 - » REORG entire tablespace
 - » **Recommend combine with ALTER TABLESPACE... PAGENUM RELATIVE**
 - » Zparm PAGENUM defaults to RELATIVE in V13 but applies to CREATE TABLESPACE only

Removing hash tablespaces

- » ORGANIZATIONTYPE column in SYSTABLESPACE = 'H'
- » Drop unique constraints against table
 - » Only necessary if index is a hash index and primary key index
 - » SYSINDEXES.HASH = 'Y', and SYSINDEXES.UNIQUERULE = 'P'
 - » ALTER TABLE tname DROP PRIMARY KEY
- » Convert from hash
 - » ALTER TABLE tname DROP ORGANIZATION
 - » Tablespace placed in REORP state
- » REORG entire tablespace

Converting SYNONYMS to ALIASes

- » Cannot have the same creator.name for an ALIAS as an existing SYNONYM
- » Therefore
 - » DROP SYNONYM name
 - » CREATE ALIAS name

Catalog and directory considerations

- » Conversions to PBG have occurred through various CATMAINT jobs
- » FL509 supports conversion of remaining objects
- » -DIS GROUP UTSCONVERSION
 - » Requires PH67554
- » Run REORG TABLESPACE CONVERTUTS for all remaining objects that output says are eligible for conversion
- » Ref. <https://www.ibm.com/docs/en/db2-for-zos/13.0.0?topic=tables-converting-db2-catalog-directory-objects-uts>

Catalog and directory considerations

- » REORG of SYSUTILX is not normally allowed
- » But special REORG of SYSUTILX will convert it to two separate PBG tablespaces
 - » SYSTSUTX
 - » SYSTSUTM

Converting workfile tablespaces to PBG

» Before FL508

- » DGTTs prefer PBG, sorts prefer zero SECQTY
- » WFDBSEP=YES
 - » DGTT must use PBGs or segmented tablespaces with non-zero SECQTY
 - » Sort must use segmented tablespaces with zero SECQTY, or user managed tablespaces

» FL508

- » CREATE TABLESPACE... FOR SORT
 - » Including other non-DGTT uses
- » CREATE TABLESPACE... FOR DGTT
- » Only applies to PBGs in workfile database
- » No ALTER of existing workfile tablespaces
 - » Existing PBGs will be treated as FOR DGTT
 - » Plan to support ALTER in future APAR
- » WFDBSEP will be removed in future

Converting from VTAM to TCP/IP

- » Convert requesters to use TCP/IP
- » Convert Db2 servers to use TCP/IP
- » Update catalog and BSDSs to disable VTAM support

- » Ref:
 - » <https://community.ibm.com/community/user/blogs/paul-mcwilliams1/2026/01/16/ready-to-convert-from-vtam-to-tcpip-in-db2-zos>
 - » <https://www.ibm.com/docs/en/db2-for-zos/13.0.0?topic=systems-converting-tcpip-communication-from-vtam>

- » Establish a project to migrate to strategic technology
 - » The sooner the better, regardless of what your plans are for Vnext
- » Take advantage of new features for performance, availability, security, resiliency, security and stability

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