

SNA/VTAM migration (preconditioning for next version of Db2)

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Wednesday, August 19

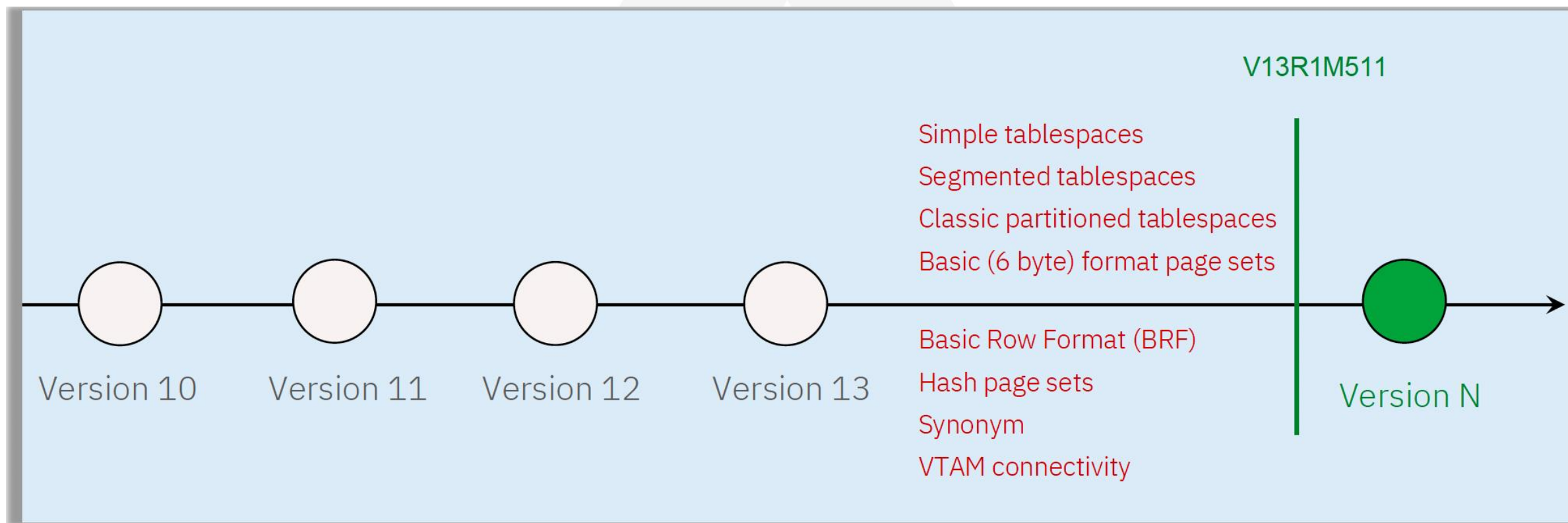
Agenda

- Overview
- SNA/VTAM has been deprecated
- Why TCP/IP?
- The migration journey
- Questions



OVERVIEW

V13R1M511 – Obsolete, Deprecated Functions



[Important news regarding Db2 for z/OS versions](#)

V13: SNA/VTAM support has been deprecated

- V13 is the LAST version of Db2 for z/OS to support the SNA communications protocol
 - Next future version of Db2 will have NO SNA support
 - When migrating to the next version of Db2, one must have activated to the last function level of V13 (V13R1M511)
 - Migration to utilizing TCP/IP for all inbound/outbound communications must have been completed
 - To activate the last function level of V13, all **active** data sharing group members will be required to be running in VTAM independence mode
 - Once the last function level of V13 has been activated, any subsequent member that is started without VTAM independence will be assumed to be running VTAM independence
 - Warning message will be issued as to Db2 assuming an IPNAME
 - IPNAME will be derived from:
 - Other member current IPNAME value
 - When data sharing group, IPNAME will be derived from BSDS generic LUNAME parameter, OR the current BSDS LUNAME parameter (if generic LUNAME unavailable, or standalone subsystem), OR
 - IPNAME will be DSNIPNAM

V13: SNA/VTAM support has been deprecated

- VTAM independence
 - Db2 Change Log Inventory (DSNJU003) must have been run against the member's BSDS to update the DDF record's IPNAME field, up to 8 non-blank alphanumeric characters (first character alphabetic) string
 - When DDF is then started, no SNA/VTAM support is activated, only TCP/IP support is available

```
DSNJCNUVU CONVERSION PROGRAM HAS RUN DDNAME=SYSUT1
DSNJCNUVU CONVERSION PROGRAM HAS RUN DDNAME=SYSUT2
DDF IPNAME=SYEC4DB2
DSNJ225I DDF OPERATION COMPLETED SUCCESSFULLY
DSNJ200I DSNJU003 CHANGE LOG INVENTORY UTILITY PROCESSING COMPLETED SUCCESSFULLY
```



WHY TCP/IP?

Why TCP/IP?

- Switching to TCP/IP isn't just mandatory—it brings real advantages:
 - **Enhanced security**: Supports modern encryption and authentication methods like AT-TLS and JSON Web Tokens (JWT)
 - **Improved performance**: Reduces CPU consumption and supports 64-bit communication buffers
 - **Cost efficiency**: Improves efficiency by leveraging zIIP processors



THE MIGRATION JOURNEY

Converting to TCP/IP from VTAM in Db2 for z/OS

- Updated Db2 13 for z/OS online documentation
 - [Converting to TCP/IP communication from VTAM in Db2 for z/OS](#)
- Step 1. Convert Db2 requesters to use TCP/IP
- Step 2. Convert Db2 servers to use TCP/IP
- Step 3. Handle any usage of already verified protected user IDs
- Step 4. Verify TCP/IP works and fully disable VTAM support for each Db2s

Convert Db2 requesters to use TCP/IP

- One must make changes to the requesting Db2's Communications DataBase (CDB)
 - SYSIBM.LOCATIONS table rows must have a PORT value representing the target Db2's main, secure, regular alias, or secure alias port
 - SYSIBM.IPNAMES table rows must be inserted where the LINKNAME column of the SYSIBM.IPNAMES row must match the LINKNAME column of a SYSIBM.LOCATIONS row
 - Utilize the existing LINKNAME column value of the SYSIBM.LOCATIONS table row to be the value of the LINKNAME column of the new SYSIBM.IPNAMES table row
- **Do not** use SECURITY_OUT='A' in the SYSIBM.IPNAMES rows since most Db2 for z/OS servers are configured with TCPALVER=NO or SERVER or SERVER_ENCRYPT
 - Alternate approaches – RACF PassTickets (SECURITY_OUT='R') or RACF identity tokens (SECURITY_OUT='T')

Convert Db2 servers to use TCP/IP

- Db2 for z/OS servers do not make use of the CDB.
- Unlike SNA/VTAM, the CDB at the Db2 for z/OS server may be used for
 - inbound user ID translations, and
 - come-from checking
- No inbound user ID translation for TCP/IP
- Come-from checking, see [Permitting access from remote requesters](#) on how to use the RACF APPCPORT class or RACF SERVAUTH class with TCP/IP Network Access Control
 - For complete information about using the NETACCESS definitions with RACF SERVAUTH profiles for TCP/IP access, see: [NETACCESS statement \(z/OS\)](#)

Handle any usage of already verified protected user IDs

- Create a trusted context at the Db2 for z/OS server for the protected user IDs when you enable TCP/IP communications.
 - The password for this RACF ID can be password protected with SSL in the network or with the RACF Identity Token (IDT) capability.

```
CREATE TRUSTED CONTEXT CTX_PRID_TEST  
  BASED UPON CONNECTION USING SYSTEM AUTHID DBSRVID  
  ENABLE  
  ATTRIBUTES (ADDRESS '9.30.130.200')  
  WITH USE FOR PRUSRA1, PRUSRA2, PRUSRA3;
```

- In the Db2 for z/OS requester CDB:

```
INSERT INTO SYSIBM.LOCATIONS  
VALUES('DBSRVA','DBALNK','N','447',' ',' ','Y','N');  
  
INSERT INTO SYSIBM.IPNAMES  
VALUES('DBALNK','R','S',' ','9.30.130.200');  
  
INSERT INTO SYSIBM.USERNAMES  
VALUES('S','DBSRVID','DBALNK',' ',' ','N');
```

Verify TCP/IP works and fully disable VTAM support for each Db2s

- To fully disable VTAM support for each Db2 subsystem or data sharing group:
 - Db2 Change Log Inventory (DSNJU003) must have been run against the member's BSDS to update the DDF record's IPNAME field, up to 8 non-blank alphanumeric characters (first character alphabetic) string
 - When DDF is then started, no SNA/VTAM support is activated, only TCP/IP support is available

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SUCCESSFULLY
```

- For Db2 data sharing members, the recommendation is to set the IPNAME parameter to a common value such as the current GENERIC value for the members of the data sharing group.
 - If a generic LUNAME is not currently set, or the value of GENERIC is not the same across all members of the data sharing group, unpredictable authentication failures can occur when requesting locations attempt to use RACF PassTickets or RACF Identity Tokens.

-DISPLAY GROUP DDF command

- -DISPLAY GROUP command to be updated with a new **DDF** option to show the status of DDF settings across the group, including whether Db2 is running with an IPNAME value:
- Example:
-DISPLAY GROUP DDFINFO

DDF CONFIGURATION						

DB2			SEC	RES		
MEMBER	DDFSTART	LOCATION	IPNAME	PORT	PORT	PORT

DB2A	COMMAND	STLEC1	SYEC1GLU	446	448	5001
	GRPIPV4: 101.102.103.100					
	IPV4: 101.102.103.101					
	GRPIPV6: 1111:2222:3333:4444:5555:6666:7777:0100					
	IPV6: 1111:2222:3333:4444:5555:6666:7777:0101					
DB2B	AUTO	STLEC1	SYEC1GLU	446	448	5002
	GRPIPV4: 101.102.103.100					
	IPV4: 101.102.103.102					
	GRPIPV6: 1111:2222:3333:4444:5555:6666:7777:0100					
	IPV6: 1111:2222:3333:4444:5555:6666:7777:0102					
DB2C	NO					



QUESTIONS

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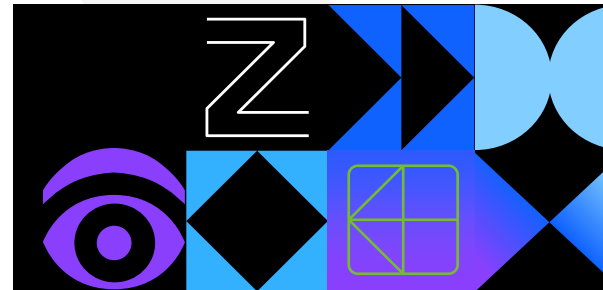
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