FLORIDA DEPARTMENT OF TRANSPORTATION

# Logical and Physical Object Naming Standards for SQL Server

**Office of Information Technology (OIT)**

**2/4/2016**

Document the object naming standards used in Florida Department of Transportation (FDOT) data models and databases.

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## Table of Contents

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## PURPOSE

This document contains the logical and physical object naming standards which shall be applied to all application system development, maintenance, and enhancement efforts commissioned by the Florida Department of Transportation (FDOT) to ensure optimal, efficient, and consistent use of and support for Microsoft's SQL Server's database platform across all environments.

These standards are in effect for all new development efforts beginning 2/4/2016.

The use of Oracle or DB2 as a RDBMS platform is no longer allowed for newly developed applications. Existing systems that are already implemented in either of these contained RDBMS platforms may continue to use them for maintenance or enhancement projects only; Any work performed on these existing systems is covered by the standards published under Standard Set 'G' [http://www.dot.state.fl.us/OIS/AppDevDocsAndGuidelines.shtm].
If development teams elect to re-implement an application's database objects from Oracle or DB2 into SQL Server, compliance with these standards is mandatory.

These standards are not applicable to COTS application systems purchased by the Department. However, these standards shall apply to all customizations the Department adds to COTS application systems implemented in SQL Server.

Naming validation rules applied to the construction of data models created and maintained within the FDOT infrastructure are also included in this document.

All requested exceptions to these standards shall be submitted to the BSSO Standards and Technical Work Group (BSTWG) in writing. The BSTWG will review each exception request and send a recommendation to the Application Services Manager, who will make the final decision.

## NAMING STANDARDS

1. All data elements, business objects, database objects, artifacts, models, and model objects must comply with the standards contained herein.
2. These standards apply to all persisted objects.
3. All object name components shall contain only English alphabetic characters, numeric characters, and separators.
4. For physical object names, **except** for the object identifier, each separate word in the name component shall begin with a capital letter followed by lower case letters for the remainder of the word (Pascal case).

   Where multiple words are used to create a name component, no separators shall be used between words in the name component.
5. Logical object name components shall be separated by spaces.
6. Physical object name components shall be comprised of:
   - 6.1. Object identifier
   - 6.2. Underscore as separator between object identifier and optional additional text.
   - 6.3. Optional additional text.
7. Physical object names, **except** column names, shall begin with an object identifier in this format:
   - 7.1. Application acronym – capital letters as approved by the DA Team
   - 7.2. Object type code – capital letters (included below)
   - 7.3. Four-digit sequential number from 0001 – 9999
     - 7.3.1. Gaps in assigned sequential numbers are allowable to promote logical business groupings of objects.
     - 7.3.2. Objects owned by a table shall include
       - 7.3.2.1. the owning table's four-digit sequential number

7.3.2.2. an additional three-digit sequential number to uniquely identify a table-owned object type of which there may be multiples; gaps in sequential numbers are allowable

Examples of table-owned physical objects:
indices (IX), check constraints (CK), default constraints (DF), foreign key constraints (FC)

7.3.3. A sequence generator name shall include the same four-digit sequential number as the table to which it is associated; no additional three-digit sequential number is required.

7.4. Underscore

7.4.1. Examples for application system *Bid Questsions and Answers* (BQA):

7.4.1.1. Each table shall be assigned an object identifier like BQATB0001, BQATB0002, … BQATB9999 – BQATB0010_User, BQATB0100_UserHistory

7.4.1.2. Each sequence generator shall be assigned an object identifier like BQASQ0001, BQASQ0002 . . . BQASQ9999 – BQASQ0001_AnswerSyntheticKey, BQASQ0002_ReviewerSyntheticKey

7.4.1.3. Each index shall be assigned an object identifier like BQAIX0001001, BQAIX0002001, … BQAIX9999999 – BQAIX0001004_ProjectCountyContractPrime, BQAIX0002015_AliasContractId

7.4.1.4. Each trigger shall be assigned an object identifier like BQATG0001001, BQATG0002001, … BQATG9999999 – BQATG0005003_AfterUpdateSubmissionStatCode, BQATG0142002_BeforeInsertQuestion

8. The Meta Data Repository Glossary[a] contains the approved list of key words, phrases, and abbreviations development teams shall use as components for all object names, business (logical) and implemented database object (physical), **except** for object identifiers.

   Where necessary to comply with database platform physical object name lengths limitations, only approved abbreviations of Glossary words and phrases shall be used.[b]

9. Except for data sources documented from different schema and models, each object subordinate to a file group or tablespace shall use the same acronym as the application documented in the model.

10. Additional text as needed may be added to an object name immediately following the object identifier **except** for attribute, entity, and column names and relationship phrases which contain no object identifiers.

11. Logical attribute name components and the associated physical column name shall be the same words and appear in the same order.

12. Logical entity name components and components in the additional optional text in the associated physical table name shall be the same words and appear in the same order.

13. The lengths of all physical object names shall comply with the limitations of the database platform.

14. All object names shall contain contextual information to enable intuitive understanding of content or purpose regardless of business domain.

15. Database Name

    15.1. Database names are assigned by the Database Administration Technical Team (DBAT).

    15.2. Each database name must be unique within each SQL Server environment.

    15.3. Each database name must be unique within the FDOT computing environment.

    15.4. SQL Server Database Name is formatted as [ccc] + “SQL” + [s] where

    15.4.1. [ccc] is the three-character acronym of the application system the database will serve

    15.4.2. ‘SQL’ indicates the database is housed within a Microsoft SQL Server platform

    15.4.3. [s] is a sequentially assigned number in the range 1 – 9.

[a] This link leads back to the Excel workbook copied into the DA Standards Workgroup2015 site.

[b] A standardized process exists to request additions to Glossary words. Please see Meta Data Repository Glossary Update Process.

## OBJECT NAME TYPE CODES

These are the current complete list of object types.
Development teams requiring new object types must submit a request to DA and DBAT for evaluation and analysis. If accepted, the new object type will be added to this list.

| Object Type Code | Object Name | Object ID Required | Separator Character | Example |
|---|---|---|---|---|
| -- | Attribute* | N | SP* | Vendor Bid Acceptance Category Code |
| -- | Column* | N | none | VendorBidAcceptanceCategoryCode |
| -- | Entity | N | SP | Vendor Bid Result And Ranking |
| -- | Relationship phrases | N | SP | ***Parent to Child:*** (Vendor Bid Result And Ranking MAY) result in selection for (Vendor Short List) ***Child to Parent:*** (Vendor Short List MAY) contain the most qualified prime contractor candidates selected from (Vendor Bid Result And Ranking) |
| **AG** | Aggregate | Y | U | BIDAG0001001_ContractVendorKeyGroup |
| **AS** | Assembly | Y | U | BIDAS0001_VendorNumberVerify |
| **CK** | Check Constraint | Y | U | BIDCK0001001_VendorBidAcceptedCode |
| **DF** | Default Value Constraint | Y | U | BIDDF0001001_VendorBidAcceptedCode |
| **FK** | Foreign Key Constraint and Relationships | Y | U | BIDFK0001001_CreateUser and BIDFK0002_UpdateUser (to provide examples for multiple relationships from one parent to one child table) |
| **FN** | Function | Y | U | BIDFN0001_ReformatDatesRetrievedFromSim |
| **IX** | Non-Unique Key Group or Index | Y | U | BIDIX0001001_DateRangePartition20130701To20131231 |
| **PK** | Package | Y | U | BIDPK0001_EtlFromWorkPrograms |
| **MV** | Materialized, Cached, or Indexed View | Y | U | BIDMV0001_SyncFedAidAmountWpgWithLap |
| **PR** | Procedure | Y | U | BIDPR0003_ValidateCntrtAmtBtwnWpaAndLap |
| **SQ** | Sequence | Y | U | BIDSQ0002_BidSubmittedByVendor |
| **TB** | Table | Y | U | BIDTB0021_VendorBidResultAndRanking |
| **TG** | Trigger | Y | U | BIDTG0001001_AfterUpdateSubmissionStatCode |
| **VW** | View | Y | U | BIDVW0001_VendBidRsltAndRankRvwCm |

* Spaces
** Underscores

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## CHANGE HISTORY

| | |
|---|---|
| **Effective Date:** 2016 February 4 | |
| **Create Date**: 2016 February 4 | **Created By:** Jolene |

| Last Update Date | Last Updated By | Reason for Change |
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