Protocol Development Quick Checklist (with corresponding guidelines)

Strictly confidential

Contents

[1 Introduction 4](#_Toc136933727)

[2 Protocol Development Checklist 5](#_Toc136933728)

[2.1 ID 5](#_Toc136933729)

[2.2 General 5](#_Toc136933730)

[2.3 Protocol 5](#_Toc136933731)

[2.4 Validation 6](#_Toc136933732)

[2.5 Points of Attention (for Skyline Developers only) 7](#_Toc136933733)

[3 Abbreviations 8](#_Toc136933734)

Revisions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Revision | Date | | Name | | Comments | |
| 001 | 08.10.2018 | | KA/MGO | | Initial version | | |
| 002 | 22.05.2019 | | SVD/JST | | Revision | | |
| 003 | 24.09.2019 | | KA | | Revision | | |
| 004 | 17.02.2020 | | KA/MGO | | Revision + template update | | |
| 005 | 06.05.2020 | | JST/MGO | | Item removed from guidelines for parameter description and values | | |
| 006 | 28.09.2020 | | KA/MGO | | Guidelines updated under Administrative Metadata Element wizard > Connection Names | | |
| 007 | 06.01.2020 | | JST/MGO | | Check SCR1249 removed | | |
| 008 | 02.04.2021 | | PDB/MGO | | Note added on XML documentation | | |
| 009 | 12.05.2021 | | JST/MGO | | SCR1250 and SCR1012 updated | | |
| 010 | 31.05.2021 | | PDB/MGO | | Obsolete DCF guideline removed | | |
| 011 | 06.07.2021 | | JST/MGO | | SCR1013 removed | | |
| 012 | 19.10.2021 | PDB/MGO | | SCR1257 added, administrative metadata section updated, title case section updated, minimum DMA version section removed, Dojo use cases section added | |
| 013 | 10.12.2021 | JST/MGO | | SCR1141: Info added on inter-process performance | |
| 014 | 04.02.2022 | JST/MGO | | Obsolete checks removed | |
| 015 | 07.02.2023 | JST | | Tweaked “Performance of inter-process calls” topic | |
| 016 | 02.06.2023 | JSP | | Links to DataMiner Protocol Development Guidelines now point to docs.dataminer.services. | |

# Introduction

This checklist must be used during any DMS Protocol related tasks where quick QA is required.

Each check has the scope “**Protocol**” and needs to be verified against the entire protocol for errors that have a critical impact on the system or may prevent the protocol from working. Such a check may also be related to something that needs to be fixed for administrative reasons.

Some checks may require you to implement an impacting change. Applicable checks contain the following warning:

***Warning: Possible impact on existing platforms if changed in existing protocol.***

You must verify every item in the protocol development checklist and specify “OK”, “Fail” or “NA” every time.

The guidelines specified in this document are designed to uphold the level of quality of DMS protocols by improving readability, maintainability and performance.

By adhering to these guidelines, we can ensure that protocols have a consistent look, and thereby increase maintainability and readability. The guidelines also increase reusability, stability and performance.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 (see <https://www.ietf.org/rfc/rfc2119.txt>).

# Protocol Development Checklist

|  |  |
| --- | --- |
| **Note**: | For each of the items in this checklist, a link is provided to the appropriate section in the guidelines. After you have clicked such a link to check the guideline in question, use the key combination *Alt* + *Left arrow* to instantly return to the location in the checklist where you clicked the link. |

## ID

|  |  |
| --- | --- |
| **Protocol name** | SLC SDF Inter App Calls |
| **Protocol version** | 4.0.0.1 |
| **SLC integration engineer** | PDB |
| **Date** | 04/08/2023 |
| **Remarks** |  |

## General

| # | Scope | Description | OK | Fail | NA | Remarks |
| --- | --- | --- | --- | --- | --- | --- |
| **Names** | | | | | | |
| {SCR1029} | Protocol | DMS element names are unique, are not empty and contain no leading/trailing spaces or disallowed characters. [(Ref. 3.1.3.6 DMS Element Names)](#_Parameter_Names)  ***Warning: Possible impact on existing platforms if changed in existing protocol.*** |  |  |  |  |

## Protocol

| # | Scope | Description | OK | Fail | NA | Remarks |
| --- | --- | --- | --- | --- | --- | --- |
| **Logic** |  |  |  |  |  |  |
| {SCR1114} | Protocol | No operation takes longer than the specified Run-Time Error (RTE) duration. [(Ref. Operation duration)](https://docs.dataminer.services/develop/codingguidelines/Protocol/Operation_duration.html) |  |  |  |  |
| **DVE** | | | | | | |
| {SCR1130} | Protocol | DVE child elements are not deleted automatically by default. [(Ref. DVE child element deletion)](https://docs.dataminer.services/develop/codingguidelines/Protocol/DVE_child_element_deletion.html) |  |  |  |  |
| **Tables** | | | | | | |
| {SCR1137} | Protocol | The primary keys are unique, do not include prohibited characters and are as compact and efficient as possible. [(Ref. Primary keys)](https://docs.dataminer.services/develop/codingguidelines/Protocol/Primary_keys1.html)  ***Warning: Possible impact on existing platforms if changed in existing protocol.*** |  |  |  |  |
| {SCR1141} | Protocol | The appropriate table update strategy has been implemented. [(Ref. Data handling)](https://docs.dataminer.services/develop/codingguidelines/Protocol/Data_handling.html) |  |  |  |  |
| **QActions** | | | | | | |
| {SCR1194} | Protocol | Multi-threaded implementations are implemented correctly (e.g. no threads outlasting the QAction) [(Ref. Multi-threading)](https://docs.dataminer.services/develop/codingguidelines/Protocol/Multi-threading1.html) |  |  |  |  |
| {SCR1195} | Protocol | Critical sections are implemented correctly. [(Ref. Multi-threading)](https://docs.dataminer.services/develop/codingguidelines/Protocol/Multi-threading1.html) |  |  |  |  |
| {SCR1196} | Protocol | A time to sleep of at least 15 ms or a multiple of 15 ms is used with Thread.Sleep calls. A valid reason is specified to use Thread.Sleep [(Ref. Thread.Sleep)](https://docs.dataminer.services/develop/codingguidelines/Protocol/Thread_Sleep.html) |  |  |  |  |

## Validation

| # | Scope | Description | OK | Fail | NA | Remarks |
| --- | --- | --- | --- | --- | --- | --- |
| **General** | | | | | | |
| {SCR1090} | Protocol | No problems are indicated in the Alarm Console. [(Ref. Alarm Console)](https://docs.dataminer.services/develop/codingguidelines/Validation/Alarm_Console.html) |  |  |  |  |

## Points of Attention (for Skyline Developers only)

| # | Scope | Description | OK | Fail | NA | Remarks |
| --- | --- | --- | --- | --- | --- | --- |
| **Registration** | | | | | | |
| {SCR1002} | Protocol | A driver help page is available on DCP. In case of a DVE protocol, each exported protocol has a page. |  |  |  |  |
| **Simulation** | | | | | | |
| {SCR1012} | Protocol | For protocols containing connections other than HTTP or SNMP, a static simulation is available in the [designated shared folder.](file:///S:\Public\DataMiner%20Software\Simulations\Device%20Simulations) |  |  |  |  |
| **Pitfalls** | | | | | | |
| {SCR1131} | Protocol | When a DVE protocol uses “noElementprefix”, the unique element name is enforced in the DMS through the use of DMS Notify 72 as described in the Protocol Development Guide.  ***Warning: Possible impact on existing platforms if changed in existing protocol.*** |  |  |  |  |

# Abbreviations

|  |  |
| --- | --- |
| ASCII | American Standard Code for Information Interchange |
| API | Application Programming Interface |
| CPU | Central Processing Unit |
| CSV | Comma-Separated Values |
| DLL | Dynamic-link Library |
| DMA | DataMiner Agent |
| DMS | DataMiner System |
| DVE | Dynamic Virtual Element |
| HTTP | Hypertext Transfer Protocol |
| IRD | Integrated Receiver/Decoder |
| LINQ | Language Integrated Query |
| RN | Release Note |
| RTE | Run-time Exception |
| SNMP | Simple Network Management Protocol |
| UTF-8 | Unicode Transformation Formats-8 |
| WMI | Windows Management Instrumentation |
| XML | eXtensible Markup Language |