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| Tibco Software Inc |
| BusinessEvents LDM Integration |
| Functional Specifications Document |

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| Author | Date | Summary of Change |
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# Requirement

There are customers who currently use BEViews, who are looking for enhancements plus there are some others who are showing interests. We already have a complete TIBCO Streambase LiveView server, which does all this and more. So the idea of this project is to leverage all the capabilities of the Live view server and integrate that with BE.

# Functional Specification

This section lists the functional specifications for BE LDM integration.

## BE Configuration

A new agent configuration (namely LiveView) is available for LDM integration as part of the CDD. This agent configuration can be added to the processing unit like any other agent. This agents joins the cluster as leach and to only spaces that are configured to publish data to LDM.

Below are some of the agent configuration options available,

### Publisher

This is used to publish data to LDM tables. It allows you to configure,

* the number of threads
* overall queue size

These can be defined based on the overall load and data sizes.

### LDM Connection

Configures the connection details to the LDM server and connection pool. Allowing to configure,

* LDM server url
* Username and password
* Initial connection pool size
* Max pool size

### Entity Configuration

Allows to configure entities within the BE project whose data needs to be published to LDM tables. Additionally an option filter value to conditionally publish data provided the given filter matches. Currently Concept and Event types are supported.

The LDM tables are created based on the BE artifact definitions, so BE entity property types get converted to corresponding LDM data types. Similarly if there are indexes created on certain properties, then corresponding indexes are created on the

Option to generate an LDM project based on the the entities selected. An configurable location where the project generates. Every cdd configuration save operation would overwrite the LDM project files based on the latest definitions.

## 2.2 BE CLI

A CLI command is available for generating the LDM project. Below is the command syntax,

./studio-tools -p <projectPath> - c <cddPath> -o <outputPath>

This should generate the LDM project based on the entity configurations set in the cdd under LiveView Agent config.

## 2.3 LDM Server

### 2.3.1 Pre-Check

Need to install StreamBase as well as LiveView Web. Both are separate installations, should be available via <https://hermes.streambase.com/dist/>

Its been tested with SB 7.6.4 and LV Web 1.1.2. So these or later versions should work just fine.

Once the Live view Web archive contains a lvweb.war. Now there are 2 ways to set this up,

Local - In the LDM project, create a folder namely “lv-user-webapps” under the project and copy the lvweb.war in that folder. This will allow live view web to be available for that project only.

Global - Here, you can create a folder namely “lv-user-webapps” under liveview/server, this will make live view web available to all LDM projects running under the LDM server.

### 2.3.2 Starting LDM Server

Two options here,

SB Studio - Open the generated LDM project in SB Studio and Run the project via the Studio->Run option.

CLI - This allows to setup a CLI and run the server via the CLI. Link here provides the way to setup the CLI [https://docs.tibco.com/pub/sb-lv/2.1.3/doc/html/install/installonosx.html#installonosx\_installing](https://docs.tibco.com/pub/sb-lv/2.1.3/doc/html/install/installonosx.html%23installonosx_installing)

Once done, the command to run the LDM server would be

lv-server run <path\_to\_LDM\_project>

## 2.3.3 LiveView Web

Once the server is up, hitting the below link should open up the Live View Web UI. If an ACL is configured, there will be an authenticated login else, user is directly taken to the dashboard.

Once in the Dashboard, based on the requirements, create a Page and Card and add various visualization, aggregates and alerts over the LiveView tables.

## 2.4 Runtime Execution

Once the LDM server is up and running. BE engine can be started normally like any other BE engine instance, providing the PU which has the Live-view agent reference.

Depending on the overall connection pool, thread count and queue size, the data will be published to LDM server. While visualizations will be updated based on the query and configurations.

If the load is larger for specific entities then publishers can be split across different notes, each node catering to different set of entities.

## 2.5. Support

The feature currently supports both concept, events as well as metrics. Metrics are largely for backward compatibility or easy migration for customers already using BE-Views.

All primitives data types are supported.

Contained/Reference concepts are supported as well.

Indexing is supported.

Drill downs have limited support via chart linking and existing drill down apps. Can be improved.

Currently StateMachines and TimedEvent are not supported.

Array data is even though published, it still needs a custom app support for rendering.