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| Tibco Software Inc |
| BusinessEvents as AS Remote Client |
| Functional Specifications Document |

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| Author | Date | Summary of Change |
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Contents

[1 Requirement 3](#_Toc459285795)

[Overview 3](#_Toc459285796)

[2 Functional Specifications 3](#_Toc459285797)

[2.1 To be able to start one or more of Cache nodes as Proxy for Remote connections 3](#_Toc459285798)

[2.2 To be able to start Inference or other agents by connecting to a Proxy as Remote members 4](#_Toc459285799)

[3 Implications 4](#_Toc459285800)

[4 Recommendations: 4](#_Toc459285801)

# Requirement

To enable BE inference agents to connect as remote client to Tibco ActiveSpaces cluster.

## Overview

Tibco ActiveSpaces allows agents to connect to the cluster as remote client. A remote client acts as a node without actually being a member of the cluster. Instead of being directly connected to the space, it is connected through a proxy. A remote client does not contribute any of its resources towards maintaining the cluster, and behaves as a pure leech node. BE extends same feature to allow its non-cache agents to connect to cluster as remote members through a cache agent that acts as a proxy. The diagram below shows an overview of the normal and remote client agents in cluster of BE nodes.



Cache-agent with remote listen.

Cluster with unicast or multicast discovery.

AS metaspace



Remote Inference agent with FT remote discovery.



Cache-agent



Remote Inference agent



Cache-agent with remote listen.

TCP link

# Functional Specifications

## To be able to start one or more of Cache nodes as Proxy for Remote connections

It should be possible to configure one or more of Cache Agent instances as a Proxy for Remote connections.

On each of the cache node instances that should act as a proxy for the remote clients, a Remote Listen URL needs to be configured.

You may use the Cluster Level “Remote Listen URL” to set the same port number for all members of the cluster. Since you need to provide unique values of port on a single machine, this would only be useful for those deployments which run a single instance of the cache node on each of the machines involved in the deployment. For those cases where you run multiple instances of the cache node per machine, you would have to override the cluster level setting using the property

be.engine.cluster.as.remote.listen.url=tcp://<port>

on each of the cache node instances.

NOTE: Instance level overrides are possible by providing –D<prop>=<value> on the be-engine command line or via TEA based deployments using the instance level settings.

## To be able to start Inference or other agents by connecting to a Proxy as Remote members

When the cache nodes are configured as in Section 2.1, non-cache agent(s) like inference agents can now connect to the AS cluster as remote client. To do so, override the AS Discovery URL as shown below

be.engine.cluster.as.discover.url=tcp://ip:port[;ip:port]**?remote=true**

where the IP and port numbers above are those corresponding to the cache nodes configured with remote listen URLs

# Implications

Below are some constrains/implications of making a BusinessEvents agent as remote client.

* Only non-cache (like inference) nodes can be remote clients.
* A remote client cannot contribute to cache storage hence “Enable Cache Storage” configuration under PU tab in CDD would be ignored.
* Remote clients would only operate as long as the cluster is up and reachable, a remote client cannot be expected to resume operations across cluster restart.

# Recommendations:

* For fault-tolerance of proxy nodes, it is recommended that you open a remote listen port on two or more of your cache agents and specify a list of these nodes in remote discovery URLs. This would minimize the chance of remote client losing connections to the cluster.
* To ensure consistency in deployment, you should configure all inference nodes as “Remote” or none of them as “Remote”. A mix of remote and non-remote connections is not recommended.