IBM Spectrum Protect (TSM) Plugin Configuration Guide

Contents

IBM Spectrum Protect / Tivoli Storage Manager (TSM)

Although IBM changed the name of their data protection platform to IBM Spectrum Protect beginning with version 7.1.3, many in the data protection industry still refer to this backup product as TSM. To avoid any confusion, Bocada often uses *Spectrum Protect /TSM* or sometimes just *TSM* to refer to *Spectrum Protect*, as seen in certain fields and reports, and in this guide.

Please reference the latest *Bocada Plugin Version Support Matrix* to see which versions of Spectrum Protect are supported by Bocada.

Spectrum Protect / TSM Configuration Checklist

While detailed steps are included below, this is an overview of the steps to configure TSM collections on your Bocada Data Collection Server:

- ☐ Install the *Spectrum Protect /TSM* Administrative Client Command Line files to the Bocada DCS.
- ☐ Have ready a Operator-level Spectrum Protect user
- ☐ If mySAP jobs are to be collected, adjust verbosity of the ERP module on mySAP servers.
- ☐ Verify required TCP port has been opened.

Supported Collection Types

The plugin currently supports the following collection types from Spectrum Protect / TSM servers:

Collection Type	Supported	Description
Backup	✓	Collects transactional details about backup, duplication and restore jobs. Example metrics include, start times, durations, bytes, files, errors etc. In Progress Jobs are also collected here.
Storage	✓	Collects point-in-time inventory information. Example metrics include, total recoverable gigabytes (storage), media volume count, media volume status, etc.
Policy	✓	Collects and stores information on policy attributes, schedules, storage units, storage groups, storage lifecycle policies and clients.
In Progress	✓	Collects basic information on backups that are running or have completed since the previous full Backup jobs data collection. These updates are included in the Backup update, but are lightweight and can be scheduled more often than backup updates if needed.

Data Sources

The plugin relies on the following Spectrum Protect / TSM data sources:

- Spectrum Protect / TSM Administrative Command Line

Requirements

This section lists requirements that must be met prior to collecting data with the Bocada plugin for Spectrum Protect / TSM.

Spectrum Protect / TSM Port

Service	Default Port	Note
Spectrum Protect / TSM	1500	-

The Bocada Data Collection Server must be able to connect to the Spectrum Protect / TSM Server on the port(s) that the Spectrum Protect / TSM software responds to. By default, the TCP port for a Spectrum Protect / TSM server is 1500; See the *Server TCP Port* section of this document below for more information on invalid ports.

Spectrum Protect / TSM Administrative Command Line

The Bocada plugin uses the Spectrum Protect / TSM Administrative Command line to communicate with the Spectrum Protect / TSM server. To make this tool available, install the version 6.2 or greater Spectrum Protect / TSM client software on each Bocada Data Collection Server. It is not necessary to add the Bocada Data Collection Server to the Spectrum Protect / TSM server as a backup client.

To install the Administrative Command Line:
1. Download the Spectrum Protect / TSM client software from IBM's support site.
2. Perform a Custom installation and select to install the Administrative Client Command Line Files.

Note: The default Spectrum Protect / TSM client installation does not include the command line tools.

Although Bocada supports Data Collection Servers running Windows Server 2008 R2, current versions of the Spectrum Protect Client software may no longer be installed; As of Spectrum Protect version 8.1, the client requires Windows Server 2012 or 2016. For details, please see http://www-01.ibm.com/support/docview.wss?uid=swg21197133

As of Spectrum Protect versions 7.1.8 and 8.1.2, new security features require updated versions of the Client. Please see the Troubleshooting section below if collecting from a recent version results in errors.

mySAP Backups

The Bocada plug-in is able to collect information about jobs performed by the Tivoli Storage Manager for Enterprise Resource Planning (ERP) module for mySAP backups. However, the plugin is dependent on the verbosity setting configured for the ERP module.

Unless the verbosity setting for the ERP module is DETAIL the plugin is unable to collect information about the job. With lower verbosity settings, the ERP module posts insufficient messages to the Spectrum Protect / TSM server. The verbosity setting is available on the configuration file located on the individual mySAP servers. Typically this file resides in the following location:

```
$ORACLE_HOME/dbs/init$ORACLE_SID.utl
```

To change the verbosity setting, modify the following line:

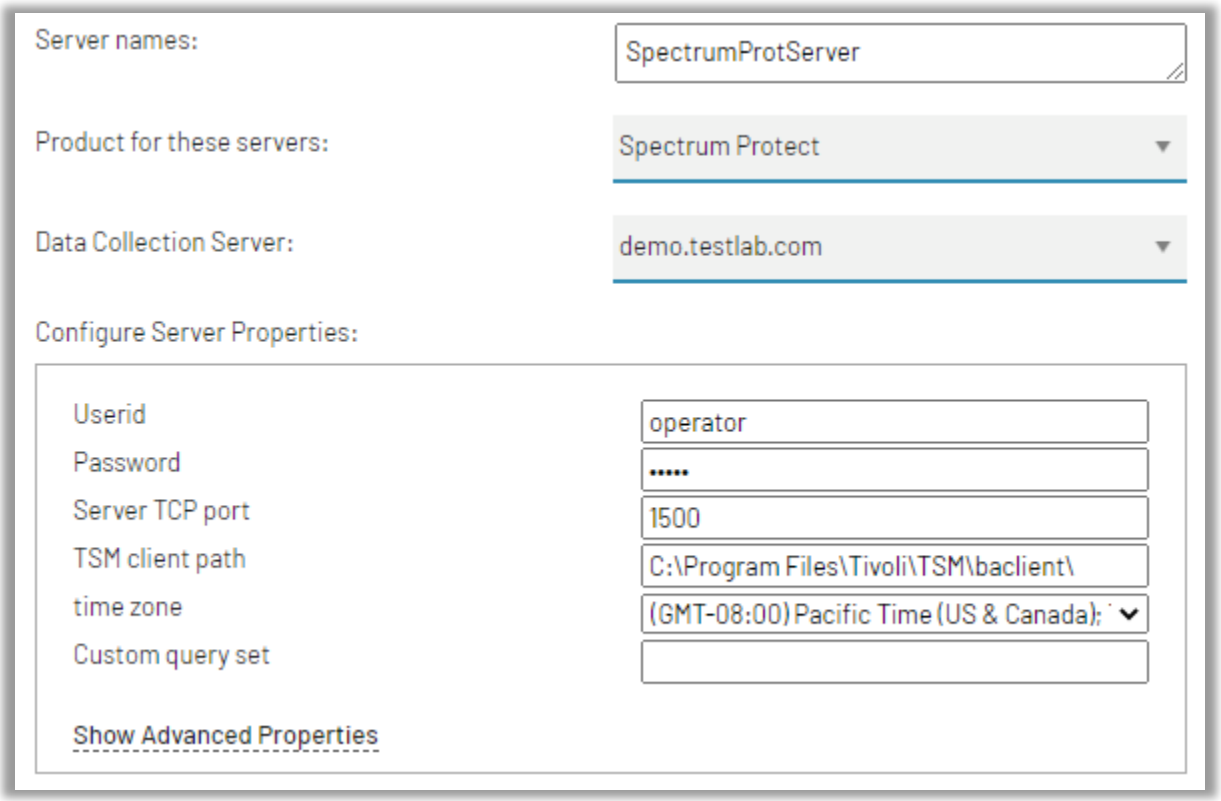
```
LOG_SERVER [TSMservername] DETAIL
```

For more information see the IBM Data Protection for mySAP Installation & User's Guide.

Setup

Server Properties

Backup Server Properties determine how the plugin will interface with Spectrum Protect servers and are managed through the Backup Servers view:



Field Definitions

Userid & Password

Enter the name and password for a valid Spectrum Protect / TSM ***Operator*** account. To view valid Spectrum Protect / TSM Administrator accounts:

1. Open the Spectrum Protect / TSM Web Administrator interface for the Spectrum Protect / TSM server.
2. Expand Object view.
3. Click Operators.
4. Note the accounts listed under *Operator Name*.

Server TCP Port

Enter the TCP/IP port used by the Spectrum Protect / TSM server. By default the TCP port for a Spectrum Protect / TSM server is 1500 and this can be verified with the following procedure:

1. Open the Spectrum Protect / TSM Web Administration interface for the Spectrum Protect / TSM server.

2. Expand Object View.
3. Click on Server Status.
4. Note the TCP/IP port number.

Note: If the TCP/IP port number has not been configured for a given server, an invalid port number may be listed. In this case the Spectrum Protect / TSM server will automatically use port 1500.

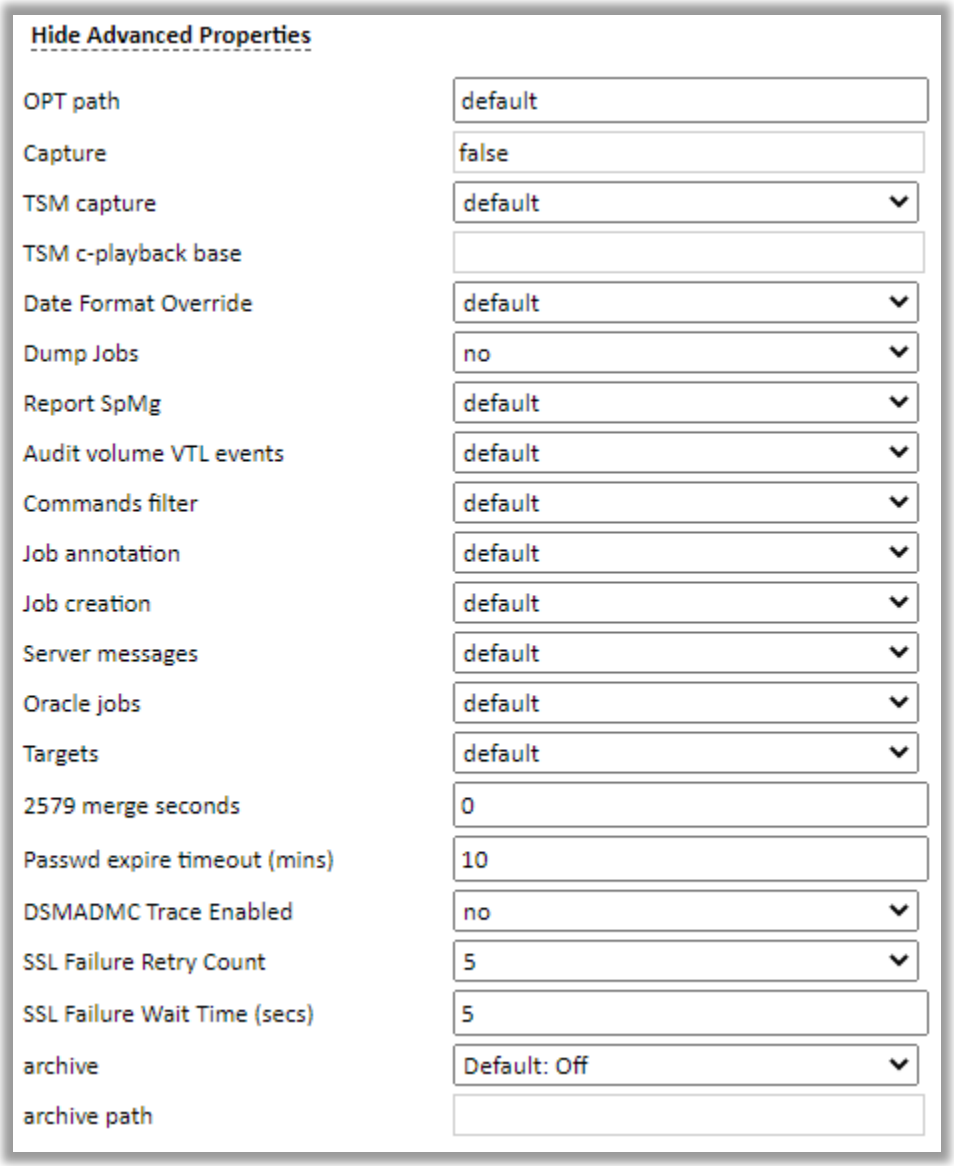
TSM client path

Provide the path to where the Spectrum Protect / TSM client is installed on the Bocada Data Collection Server. The default location is C:\Program Files\Tivoli\TSM\baclient\

Time Zone

Select the time zone where Spectrum Protect / TSM server resides. This setting ensures times are displayed consistently in environments that span multiple time zones.

Advanced Properties



NOTE: It should not be necessary to configure any Advanced Properties when setting up a new Spectrum Protect / TSM Server in Bocada, but these may be used when troubleshooting or adjusting collections.

Capture

No longer used; to enable Capture, see *Spectrum Protect / TSM Capture* below.

Spectrum Protect / TSM Capture

Defaults to 'default', which does not produce capture files of collections. May also be set to "capture and process' to perform captures when updates are run, for all collections or only certain collection types, or to 'capture only' which produces capture files but does not update the Bocada database. May also be set to 'playback' when troubleshooting the collections process.

Server Messages

Indicates the level of Server Messages collected, from 'disabled' to 'verbose'. Defaults to 'default', which is equivalent to 'brief'. If greater detail in messages is desired than the session Start and Complete times, this may be set to 'normal plus'. However, for servers with considerable activity, this has been seen to cause collections to time out under the large numbers of messages.

Reporting Notes

A few notes about Spectrum Protect specific reporting in Bocada.

Data Mapping Notes

- Bocada *Client* names map to Spectrum Protect *Node* names.
- The Bocada *Job Group* field maps to the Spectrum Protect *Schedule* name.
- A Bocada *Target* is the same as a Bocada *Asset*, and is one of the list of items being backed up on the Backup Client. In Spectrum Protect most backup are kicked off by the client node and are unknown to the SP server. so Bocada cannot mine the name of the object being backed up on the Spectrum Protect *Node*. Bocada shows *CLIENT_DEFINED* for the target in these cases. If the backups are scheduled on the backup server and it has a list of items to be backed up on the Node (e.g. the D:\ drive on Windows or the /usr partition on Linux) then Bocada will show that as the target name.
- *Retention* is unavailable for Spectrum Protect jobs. Background: retention in SP works on 2 criteria, i.e. versions and days, but this applies to objects and files, not to backup jobs. Any backup job can result in backup of N number of files. The most recent backup version of any object is retained by infinitely, with some exceptions. SP works on progressive incremental methodology (for flat file data) which means that the apart from 1st backup, all successive backups are incremental. Some objects remain static and are only backed up once; uch static files might be retained for years. Spectrum Protect does not recover a backup job, it recovers the objects such as filesystems, directories and files.

Troubleshooting

Issue: Data collection fails with "*ANS1592E - Failed to initialized SSL protocol*" or "*Data Source Failed: Unrecognized error from dsmadmc.exe*"

These errors can be caused by several underlying conditions. For example, the admin user security that is set up may need to allow connection from the specific Bocada DCS being used to collect data.

As of Spectrum Protect versions 7.1.8 and 8.1.2, new security features require updated versions of the Client. If encountering collection errors such as ", please follow the steps below:

1. Upgrade/Install the Spectrum Protect client on the Bocada Data Collection Server to one of the following versions
    a. 7.1.8 or greater **
    b. 8.1.2 or greater **
    ** Please review system OS requirements for each version

2. Run the following command from the Spectrum Protect Server's command line:

    update admin <user-name used for data collection> sessionsecurity=transitional sslrequired=no

    *** Although IBM documentation states that the sslrequired parameter is deprecated in v7.1.8 and v8.1.2, Bocada collections can fail when this is set to "Default" or "Yes"

3. Verify "SSL Required = NO" and "Session Security = Transitional" by running the following:
    query admin <user-name used for data collection> format=detailed

4. Run a manual collection from the Bocada Data Collection server, as above.

Issue: Failure on a Spectrum Protect / TSM Admin Console Command:

Should collections fail on a particular Spectrum Protect / TSM Admin console command, the command in question should appear at or near the end of the log or results in the above steps. Run this command directly from the command line to determine if there is an issue with running Spectrum Protect / TSM Admin commands against the Spectrum Protect / TSM server(s) in question.

1. The command that you are looking for in the log file will be something like:

```
"C:\Program Files\Tivoli\TSM\baclient\\dsmadmc" -SE=MYSERVERNAME
-comma -noconfirm -DATAONLY=YES -id=usibrs -pa=XXXXX -
optfile="d:\bocada\datacollection\snapshot\tsm\MYSERVERNAME\backu
p\TsmTemp\\RET_MYSERVERNAME_BackupLog_SOMENUMBERS.OPT" "SELECT
distinct domains.domain_name, domains.backretention,
domains.archretention, bu_copygroups.set_name,
bu_copygroups.class_name, bu_copygroups.verexists,
bu_copygroups.verdeleted, bu_copygroups.retextra,
bu_copygroups.retonly, devclasses.devtype FROM
domains,bu_copygroups, stgpools, devclasses WHERE
set_last_activated=bu_copygroups.set_name AND
bu_copygroups.destination = stgpools.stgpool_name AND
stgpools.devclass = devclasses.devclass_name ORDER BY
domain_name"
```

2. Open a command prompt window. Navigate to the Spectrum Protect / TSM Admin client location (as specified in the server property 'TSM client path'). By default, this will be: C:\Program Files\Tivoli\TSM\baclient\
3. Find the TSM command which produced the failure messages and enter it, with the following edits.
    a. Note that any Spectrum Protect / TSM command will appear in the log with the password redacted, so to re-enter the same command, change '-pa=XXXXX' to the actual password for the user account running the command.
    b. Also note that Spectrum Protect / TSM will clean up any OPT files produced for running a Spectrum Protect / TSM command, so if the Spectrum Protect / TSM command specifies an OPT file, one will need to be created. The command should specify the file location and name, so create a .txt file in that location, rename it to the name specified in the Spectrum Protect / TSM command (or change the command line to point at your new .opt file), and include the contents below, assuming that you are using the default Spectrum Protect / TSM port of 1500:

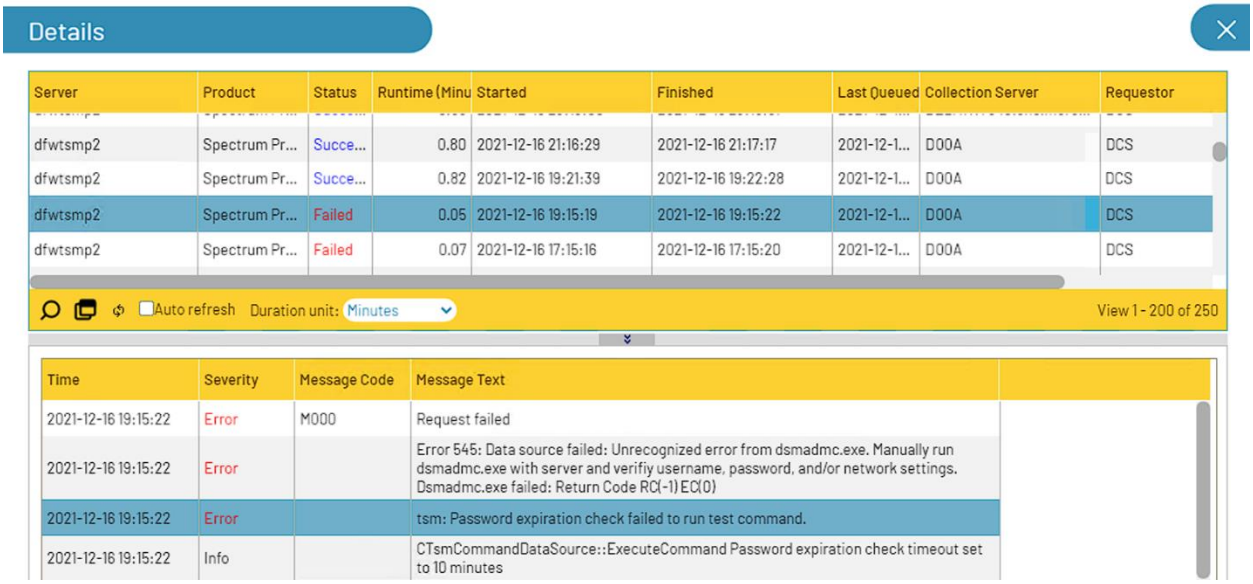
```
TCPPORT 1500
PASSWORDACCESS GENERATE
TCPSERVERADDRESS <SERVER_NAME>
```

4. Run the same Spectrum Protect / TSM command again, to determine if the error seen is consistent.
5. Depending on the output of the command, you may want to discuss this with the Spectrum Protect / TSM Admin for that server. Also, send the results to Bocada.

Issue: Collection failing with error such as Error 545: Data source failed: Unrecognized error from dsmadmc.exe. …

You may see Spectrum Protect Collections failing with below error, whereas other backup product collections were completing successfully. This error can be caused by several different problems. This troubleshooting section only addresses one of those underlying problems. The key full error will be:

Error 545: Data source failed: Unrecognized error from dsmadmc.exe. Manually run dsmadmc.exe with server and verify username, password, and/or network settings.
Dsmadmc.exe failed: Return Code RC(-1) EC(0)
You may also see the following error below the primary error:
tsm: Password expiration check failed to run test command.
You may also notice that on reboot, the Bocada UI service would not start automatically and must be manually launched.



The underlying cause could be that the Bocada Service Account did not have administrator access. Verify as follows:

1. Login to the DCS using a user ID that has administrator access on the server.
2. Manually run the DSMADMC command to ensure DSMADMC run by this user is able to communicate with the TSM Server using the Bocada user.
3. Stop Data Collection service.
4. Run Data Collection service in the foreground.
    a. Run below command on the command prompt. Below command starts the data collection service in foreground.
    b. F:\Bocada\DataCollection\bin>PrismDataCollection.exe -run
5. Verify the Collections by running a manual collection. If the collections are now successful, probably issue is with the user ID running the Bocada Service is not a local Administrator.
6. This is an indication that the problem is that the Bocada Service account does not have administrator access on the servers. As a result, Spectrum Protect Data Collections fail even though the DCS service was started.

Solution: Update Bocada service to run using a user\service account which has administrator level permissions on the DCS server. Or, grant the account that is running the Bocada Data Collection service the Local Administrator role

Technical Support

For technical support or a copy of our standard support agreement, please contact us.

E-mail: support@bocada.com
Support Portal: https://bocada-support.force.com/
Phone: +1-425-898-2400