

Payroll Reporting Web Service

Technical Specifications

A guide for
developing client applications
for submitting employer payroll reports
using PSP Web Service

Revision History

Version 1.19 Latest release February 16, 2007

Table of Contents

1	Introduction.....	5
1.1	About this manual.....	5
1.1.1	Purpose and audience.....	5
1.1.2	Structure.....	5
2	Overview of PSP Web Service.....	6
2.1	Background.....	6
2.2	Overview of PSP.....	6
2.3	Why this initiative.....	6
3	Summary of Web Service Requirements.....	6
3.1	Definition of PSP Web Service.....	6
3.1.1	Security Layer.....	7
3.1.2	Services Layer.....	7
3.1.3	Packaging Layer.....	8
3.1.4	Protocol Layer.....	8
3.1.5	Information Layer.....	9
3.2	PSP Logical Data Flow.....	9
3.3	Business Partner Application Requirements.....	9
4	Web Service Specifications.....	10
4.1	Connectivity Specifications.....	10
4.2	Simple Object Access Protocol (SOAP) Specifications.....	11
4.2.1	SOAP Message Structures.....	11
4.3	XML Specifications.....	12
4.4	Web Services Security Specifications.....	12
4.4.1	Getting Authorized for WorkSafeBC Web Services.....	13
4.4.2	Message Validation.....	14
4.5	Message Specifications Summary.....	14
4.5.1	Message Specification: Submit Payroll Report.....	14
4.6	Submission Error Specifications.....	14
5	Overview of client development & implementation.....	16
5.1	End-to-End PSP Web Service Overview.....	16
6	Testing the PSP Web Service.....	17
6.1	Testing Overview.....	17
6.2	Connectivity Test.....	17
6.3	Internal Independent Testing.....	17
6.4	Partner Validation (End-to-End) Functional Testing.....	18
6.4.1	Partner Validation Specifications.....	18
6.4.2	Error handling and problem resolution.....	18
6.4.3	Defect Tracking.....	19
6.4.4	Testing Support – PSP Team Support.....	19
7	Accessing the PSP Production environment.....	20
7.1	Production Support – WorkSafeBC Customer Service Centre (E Business Help Desk).....	20

Appendices..... 21

 Appendix A. – PSP Field List..... 22

 Appendix B. – PSP Web Service Error Responses..... 26

 Business Logic Error Codes for External Data-entry Vendors..... 28

 Business Logic Error Codes for Payroll Service Providers 26

 PSP Security/Server Failure Error Messages..... 28

 B2B Message Logs 32

 Appendix C. – PSP web services schemas 33

 PayrollReport Document schema: 34

1 Introduction

Welcome to the Technical Specification for the Payroll Service Provider – Client Payroll Reporting Web Service of WorkSafeBC– the Workers’ Compensation Board of B.C.

1.1 About this manual

1.1.1 Purpose and audience

This manual is intended for third party service providers or employers who want to extend or develop applications to be able to submit payroll reporting information to WorkSafeBC via the PSP Web Service.

This document is a technical specification for interacting with the PSP Web Service.

1.1.2 Structure

The following is a review of the structure of this document.

Overview of reporting requirements. This section covers an introduction to the WorkSafeBC and the legal requirements for employers to report payroll.

Overview of the PSP Web Service. This section provides an overview of what the PSP Web Service is and why it was created.

Summary of Web Service Requirements. This section covers the basics of web service technologies in general and specifically how they apply to the PSP Web Service.

Web Service Specifications. This section covers the actual specifications from which a client application can be built to communicate with the PSP web service. It provides an overview of the services available and specifications for each, including error handling.

Overview of client development & implementation. This section covers the processes involved in actually connecting to the PSP Web Service, including a brief review of reporting requirements, security issues, connecting to the PSP testing environment, independent testing, support resources, etc., and finally accessing the PSP production environment.

The Appendix contains detailed development resources such as Case Diagrams, the PSP Field List, full text of all the schemas, sample SOAP messages, etc.

Finally, there are listings of figures and table, a Glossary and an Index.

2 Overview of PSP Web Service

2.1 Background

Employers are required to report their payroll to WorkSafeBC. Generally, firms whose annual premiums exceed \$1,500 report their payroll four times a year through what's known as the *Employer's Remittance Form* (Form 1820). These firms also submit the *Employer Payroll and Contract Labour Report* (Form 1810) annually to reconcile their account at the end of the year.

Firms whose premiums are less than \$1,500 report their payroll as well, once a year, through the *Employer Payroll and Contract Labour Report*.

The industry in which the firm operates dictates the classification unit used to classify reported payroll.

There are several methods available for submitting payroll report information to WorkSafeBC, whether electronically or using the aforementioned forms. The PSP Web Service initiative, begun in 2005, is the latest interface for submitting both quarterly and annual payroll report data to WorkSafeBC.

2.2 Overview of PSP

The PSP Web Service allows employers, third party data-entry vendors and third party payroll service providers to develop software modules to fit new or existing information systems which submit payroll report information electronically to WorkSafeBC.

2.3 Why this initiative

Some payroll service providers have expressed a desire to submit payroll report data to WorkSafeBC electronically on behalf of their customers. We also expect that large employers who have their own in-house payroll systems may wish to submit their payroll reports electronically. This is a technology path encouraged by WorkSafeBC; therefore, the PSP web service has been developed in partnership with stakeholders (Business Partners) who are committed to the end product.

3 Summary of Web Service Requirements

In this section we will provide a general overview of web services, their basic components, and how the end-to-end process works.

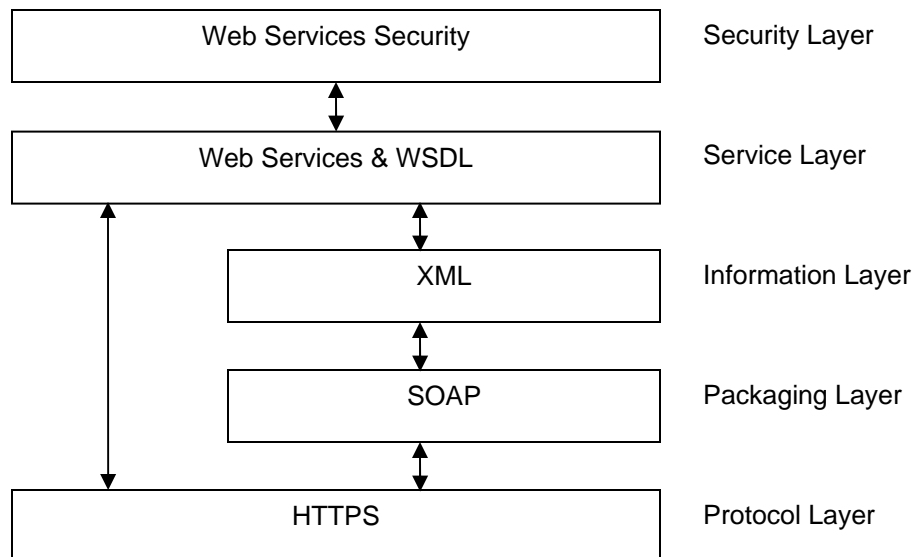
3.1 Definition of PSP Web Service

The PSP Web service is an Extensible Markup Language (XML) application which transports payroll report data between Business Partner applications and the WorkSafeBC Employer Administration System. By creating an XML document in the form of a SOAP

message, a Business Partner program can send payroll report information to the Web service across the internet and receive a reply, also in the form of an XML document. Upon receiving an XML document, the Web service interface validates the data against business rules (as defined in the appendices of this document) and transforms the XML data into a format understood by the WorkSafeBC Employer Administration System.

Like all web services, the PSP Web Service is comprised of multiple layers, namely:

Figure 1 – Web Service Layers



3.1.1 Security Layer

The PSP is not a public web service. Employers, data-entry vendors and payroll service providers are able to access the Web Service only after being authorized by WorkSafeBC. The web service listens to all incoming inquiries but only responds to requests carrying the credentials of authorized Business Partners. For more information about authorization, see section 4.4.1 – Getting Authorized for Getting Authorized for WorkSafeBC Web Services

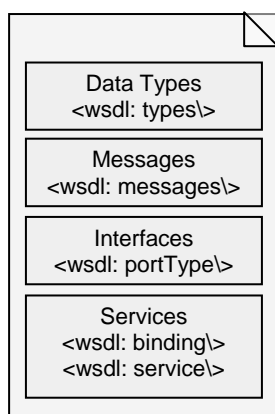
3.1.2 Services Layer

A description of each service accessible through the web service interface is required so the Business Partner can contact and use the web service. The Web Service Description Language (WSDL) is the de facto standard for providing these descriptions. Using WSDL, a web service describes what it does, how it does it, and how consumers of that web service can go about using it. Both WorkSafeBC and the Business Partner share a common WSDL file which defines four types of things: data, messages, interfaces, and services.

- **Data types:** the data types—in the form of XML schemas—to be used in the messages

- **Message:** an abstract definition of the data, which in the case of the PSP Web Service is in the form of an XML message presented as an entire document.
 - **Operation:** the abstract definition of the operation for a message, such as naming a method that will accept and process the message.
- **Interfaces**
 - **Port type:** an abstract set of operations mapped to one or more end points, defining the collection of operations for a binding; the collection of operations, because it is abstract, can be mapped to multiple transports through various bindings
- **Services**
 - **Binding:** the concrete protocol and data formats for the operations and messages defined for a particular port type. NOTE: Keeping the operations and messages abstract allows them to be bound to different protocols and data formats such as SOAP, HTTP(S) GET/POST, or MIME.
 - **Port:** a combination of a binding and a network address, providing the URL address of the web service.

Figure 2 – WSDL Schema Structure



For detailed information about the PSP WSDL, see Appendix C.

3.1.3 Packaging Layer

Once an interface is defined, web services need a way to communicate with one another and to exchange messages. The Simple Object Access Protocol (SOAP) defines a common format for XML messages over HTTP and other transports. The PSP web service uses Simple Object Access Protocol (SOAP) version 1.1 to define a standard format and interpretation of messages.

3.1.4 Protocol Layer

The PSP web service uses HTTPS for transporting SOAP messages. In order to use the Web Service a Business Partner application must be able to access the Internet via HTTPS so as to both send and receive SOAP messages. For more information see section 4.1 - Connectivity Specifications.

NOTE: Business Partners using proxy servers may have additional coding requirements depending on the proxy's configuration.

3.1.5 Information Layer

XML is a meta-language, like HyperText Markup Language (HTML), which enables cross-platform data interchange using a standard method for encoding and formatting information. Unlike HTML, XML lets the author publish information about data's structure and its meaning or context.

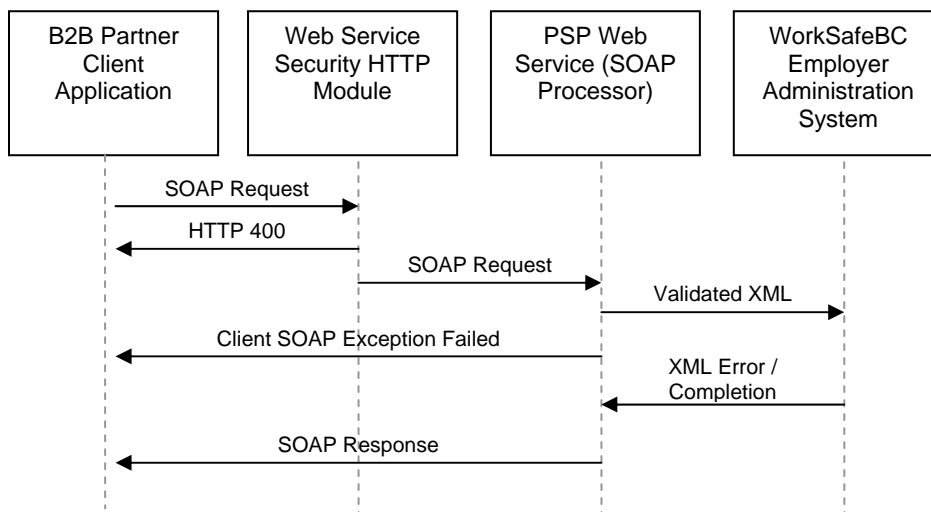
3.2 PSP Logical Data Flow

There are four primary actors engaged during the processing of a web service request:

- B2B Business Partner Application,
- Web Service Security HTTP Module,
- PSP Web Service
- WorkSafeBC Employer Administration System.

Web Services can use many transport protocols but the most common is Simple Object Access Protocol (SOAP). The following illustration shows the SOAP messages flowing back and forth along this data path.

Figure 3 – PSP Logical data flow diagram



3.3 Business Partner Application Requirements

The basic Business Partner application requirements are as follows:

- Produce PSP-schema-compliant XML for the “Submit Payroll Report” message
- Adhere to the business requirements for the message
- Send properly structured SOAP messages to the PSP web service in accordance with the Web Service Definition Language (WSDL) specifications.
- Receive properly structured SOAP messages from the PSP web service in accordance with the WSDL specifications.
- Receive, log and process error messages

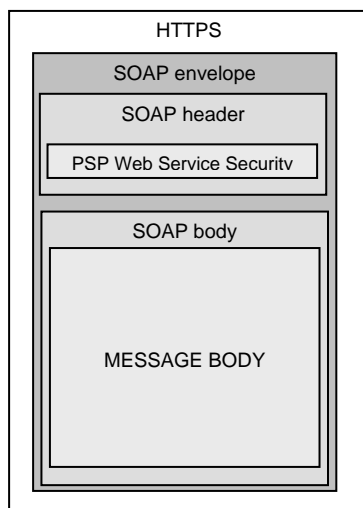
4 Web Service Specifications

This section contains detailed specifications describing all acceptable message transmissions that WorkSafeBC can process and all responses WorkSafeBC can generate. Using this specification, the Business Partner can construct a computer system capable of generating and receiving such messages. Upon successful validation of an incoming message, the submission will be accepted by the PSP web service and will be processed into the WorkSafeBC administrative systems.

4.1 Connectivity Specifications

To secure the integrity of the sensitive data being transferred between the Business Partner and the PSP web service, all transmissions must encrypt SOAP messages using the Secure Socket Layer (SSL) protocol often referred to as HTTPS.

Figure 4 – The PSP HTTPS Protocol



The Business Partner will connect to one of two PSP web service environments; there is a client validation (CV.B2B) environment for testing, and a production (B2B) environment

which conducts actual database queries and responses. Their respective URLs are as follows:

Table 1 – PSP Web Service URLs¹

Testing:	https://cv.b2b.online.worksafebc.com/wcb.PSP.WebService/PayrollReport.asmx
Production:	https://b2b.online.worksafebc.com/wcb.PSP.WebService/PayrollReport.asmx

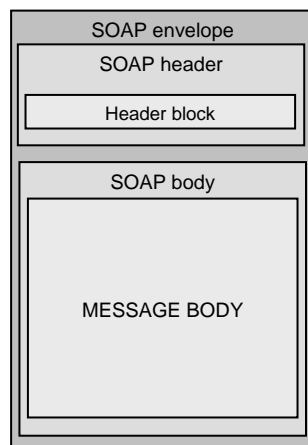
4.2 Simple Object Access Protocol (SOAP) Specifications

The XML syntax for expressing a SOAP message is based on the soap-envelope namespace (<http://www.w3.org/2001/06/soap-envelope>). This XML namespace identifier points to an XML Schema that defines the structure of what a SOAP message looks like.

4.2.1 SOAP Message Structures

As defined in the PSP schemas, a valid SOAP message consists of an envelope containing a header and a body, as shown below in Figure 5 – The PSP SOAP message structure. The header contains blocks of information relevant to how the message is to be processed. The body contains the actual message to be delivered and processed. Each SOAP Body element contains a single PSP message with as many child nodes as required. For example, a single payroll report may contain information for one or more classifications, each with its own payroll amount data, together with identification information and, optionally, contact information.

Figure 5 – The PSP SOAP message structure



SOAP Envelopes

As defined in the PSP schemas, each SOAP Envelope element contains one Header and one Body element. The Body element may contain as many child nodes as required. The Body element contains the XML message.

¹ To be confirmed with WorkSafeBC prior to connection.

The Header element must appear as the first child of the Envelope, before the Body. Each element contained by the Header is called a header block. The purpose of a header block is to communicate contextual information relevant to the processing of a SOAP message. To validate against the PSP schema, the header block must contain authentication credentials such as the Business Partner ID, Business Partner Type, and Business Partner Token. For more information, see section 4.4.1 – Getting Authorized for WorkSafeBC Web Services.

Figure 6 – SOAP envelope example

```
<soap:envelope>
  <soap:Header>
    <wcbSecurityHeader xmlns="http://B2B.online.worksafebc.com/wsSecurity">
      <BusinessPartnerID>123456</BusinessPartnerID>
      <BusinessPartnerType>EM</BusinessPartnerType>
      <BusinessPartnerToken>CF3821ED-75E0-457E-A181-
D89CA056A438</BusinessPartnerToken>
    </wcbSecurityHeader>
  </soap:Header>
  <soap:body>
    <?xml version="1.0" encoding="UTF-8"?>
    <XML MESSAGE>
      . . .
    </XML MESSAGE>
  </soap:body>
</soap:envelope>
```

This example illustrates all of the core components of the PSP SOAP Envelope specification. There is the <soap:envelope>, the topmost container that comprises the SOAP message; the <soap:header>, which contains additional blocks of security information and how the body is to be processed; and the mandatory <soap:body> element that contains the actual message to be processed.

4.3 XML Specifications

The PSP web service currently uses Extensible Markup Language (XML) version 1.1 as defined by the W3C (<http://www.w3.org/2001/XMLSchema>).

4.4 Web Services Security Specifications

Each business partner must have a valid business partner identifier (normally a WorkSafeBC account number) issued by WorkSafeBC. This identifier must be included in all messages sent to the PSP web service.

NOTE: All registered Internet Protocol addresses must be static – that is, not assigned by a DNS server.

The web services security infrastructure will validate each message sent to the PSP web service and requires that the submitter be properly authorized by WorkSafeBC (see Section 4.4.1 Getting Authorized for WorkSafeBC Web Services).

4.4.1 Getting Authorized for WorkSafeBC Web Services

The following table (Table 2) defines the information required for registering for access to the PSP web services.

Table 2 – Registering with WorkSafeBC Web Services Security

Information Required for Registration	
Name	Description
Partner name	The legal or trade name of the business partner.
Contact name	This name of the individual at the partner site who will be the primary contact for resolving web service problems. This is likely a technical individual (may be a developer or web service support person).
Contact phone number	The phone number of the contact person.
Contact email	The email address of the contact person.
IP Address	One or more static Internet Protocol (IP) address from which the Business Partner will initiate all submissions to the PSP web service.
WorkSafeBC Employer Account Number	The employer's account number assigned by WorkSafeBC and used when submitting payroll reports.

As part of the registration confirmation, the service provider will receive the details in the following table upon successful completion of the registration process.

Table 3 – WorkSafeBC Web Services Security Confirmation

Information provided upon successful registration	
Name	Description
Business Partner ID	As defined in Appendix A. – PSP Field List node # 19. As it is anticipated that most users of the PSP web service will be employers, the standard business partner ID will be the partner's six-digit WorkSafeBC Account Number. This code must be included in every submission as part of the SOAP header.
Business Partner Type	As defined in Appendix A. – PSP Field List node # 20. The role type is assigned to the submitting employer upon registration into the PSP initiative. This code must be included in every submission as part of the SOAP header. ²
Business Partner Token (or Partner credential)	As defined in Appendix A. – PSP Field List node # 21. The token is a unique credential issued to each Business Partner. This token must be included in every submission as part of the SOAP header.
Processor Identifier	As defined in Appendix A – PSP Field List node # 4. A code identifying the partner who is submitting the payroll report on behalf of the employer. The processor must be identified in the WorkSafeBC administrative system. This id will be provided by the WorkSafeBC to the partner.

For Web Services Security Error Messages, see Appendix B, Table 8.

²As of the publication date, 'EM' is the only accepted value for this field.

4.4.2 Message Validation

Before a SOAP message will be accepted, it must pass through Web Service Security and the PSP SOAP Processor to be validated against the appropriate schema. Only after passing these validations will the submission be processed by the WorkSafeBC Employer Administration System. At this point, additional business logic validation is conducted and rule violations will be returned to the Business Partner. Only after all rule violations are corrected will the document be accepted and a completion code returned to the client.

4.5 Message Specifications Summary

The PSP Web Service defines a single public method: `SubmitPayrollReport`, which is used to submit a payroll report on behalf of an employer.

The web service will return a `payrollReportResponse` document, containing either a confirmation number (for a successful submission) or error information (for an unsuccessful submission).

Sample submission and response documents are shown in Appendix C.

4.5.1 Message Specification: Submit Payroll Report

Each submit payroll report message may only contain one payroll report, whose root element is either “`periodicPayrollReport`” (payroll spanning a calendar quarter) or “`reconciledPayrollReport`” (payroll spanning a calendar year).

A given payroll report message must contain one `payrollReportIdentification` node, indicating the employer account number, processor identifier, and either the `payrollReportIdentifier` or the `payrollReportCalendarYear` and (for a periodic payroll) the `payrollReportQuarterNumber`.

The message must contain one or more classifications and the appropriate payroll information for each classification. For periodic payroll reports, the `totalEarningsAmount` must be provided. For reconciled payroll reports, the `wagesAndSalaryAmount`, `shareholderEarningsAmount`, and `excessEarningsAmount` must be provided.

For reconciled payroll reports, a `payrollReportContactDetails` node can be provided.

4.6 Submission Error Specifications

Every message received from the business partner will be acknowledged and responded to by a reply message. If WorkSafeBC is unable to process the message, a deterministic error code and message will be attached to the reply. Submission errors fall into three basic categories:

- Server Faults
- Security Faults
- Schema Faults / Business Logic Faults

Server Faults

Server faults occur when there is a problem accessing the web service due to connectivity problems, errors in the WSDL, or errors in SOAP encoding. A server fault is returned as a server message such as HTTP 400.

A successful connectivity test should eliminate most server faults. Any future faults would likely be attributed to internet outages, server failures, or configuration changes. For more information, see section 6.2 - Connectivity Test. For detailed information on server faults, see Appendix B, Table 8.

For additional support for internal server errors, you may contact the WorkSafeBC's E-business Help Desk at (604) 276-3135 or Toll free 1-888-855-2477 or email EHELP@WorkSafeBC.com

Security Faults

The web service security infrastructure and the web service will protect the integrity of the service and provide the following validation:

- Verify security authentication
- Verify message syntax compliance with the schema

In the case of a security fault, an appropriate response message will be generated and returned to the business partner. A security fault is returned as a server message such as HTTP 500 accompanied by a brief SOAP message. For more information, see Appendix B, Table 8.

Schema Faults/Business Logic Faults

Schema faults occur when there are schema validation errors due to incorrectly structured XML documents. Business logic faults are a type of schema fault and occur due to errors in business logic within the data rather than in the structure of the XML; for example, a payroll report is received for an employer which is not on file. There may be the infrequent circumstance where multiple errors are detected and provided in the message response. These are largely data entry errors and are easily rectified. Appendix B, Table 7 has a full listing of all known schema fault error messages.

NOTE: Since the PSP web service relies on the .NET SOAP Processor, limitations within the processor's validation logic may contribute to situations wherein not all errors are reported until a higher level error is fixed. This is a limitation of the processor.

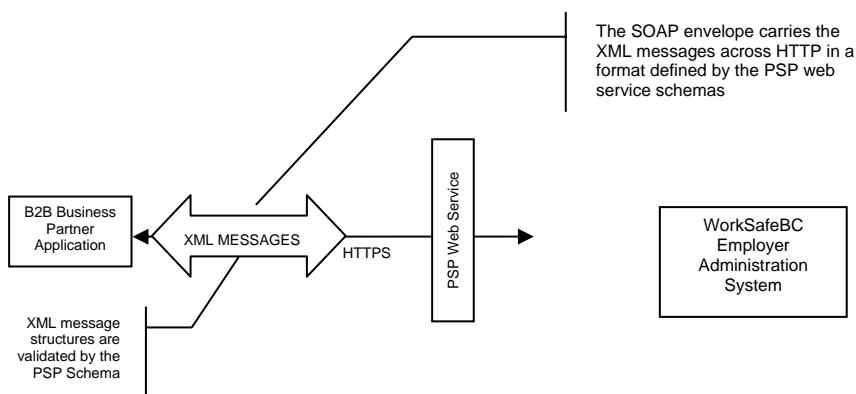
5 Overview of client development & implementation

5.1 End-to-End PSP Web Service Overview

The flow chart in Figure 7 – PSP End-to-end Overview outlines the basic process of the web service. The steps required to develop and implement software to access the PSP web service are as follows:

1. WorkSafeBC provides the Business Partner with this Technical Specification document and explains and discusses technical details as needed.
2. The employer/service provider contacts WorkSafeBC to register for the service. The Business Partner receives registration confirmation in the form of authentication tokens for connecting to the service.
3. Based on the connectivity test schema (and using the CV.B2B environment), the Business Partner establishes contact with the PSP web service and ensures messages can be both sent and received. If required, WorkSafeBC Information Services Department provides connectivity consultation.
4. The Business Partner develops client application software according the PSP Technical Specification.
5. Once the client application is complete, the Business Partner conducts extensive internal testing to ensure that the system produces well-formed and valid XML.
6. The Business Partner conducts a Client Validation or end-to-end test using the defined CV.B2B environment. WorkSafeBC can provide several testing account numbers that will evaluate as valid in this environment. WorkSafeBC monitors the test to ensure the client application can send and receive messages from the PSP web service.
7. WorkSafeBC grants the Business Partner access to the production environment of the PSP web service.

Figure 7 – PSP End-to-end Overview



6 Testing the PSP Web Service

6.1 Testing Overview

As with any development process, testing plays a crucial role and is executed in three major steps:

- Connectivity test (infrastructure validation)
- Internal independent in-depth testing of components developed by WorkSafeBC and the partners' organizations conducted internally by the respective development and test teams
- Joint testing with the partner of the full functionality (a.k.a. end-to-end test)

Table 4 – Test Plan Overview

Test increment	Description
Connectivity test	Objective: To verify the ability of the partner to consume a document-centric Web Service. Partner registration is a prerequisite for the connectivity test.
Independent Testing	Objective: To create, send and receive valid SOAP messages containing well-formed XML validated against the PSP schemas. Testing impacts both WorkSafeBC and partner.
End-to-end functional test	Objective: To successfully execute a limited number of positive cases for each type of message.

6.2 Connectivity Test

Once registered with WorkSafeBC Web Security, the Business Partner must execute a Connectivity Test by sending WorkSafeBC the following properly structured SOAP message to the Connectivity Verification (CV) Web Service:

Table 5 – Connectivity Test Parameters

Client Soap Action	As defined in wcbSecurityHeader and Connectivity Test Schema
CV Web Service Address	https://cv.b2b.online.worksafebc.com/wcb.ConnectivityTest.WebService/ctService.asmx
Description	Objective: The connectivity test confirms that the Business Partner is properly creating SOAP message headers with Business Partner numbers, credentials, IP addresses, etc. and is correctly entered in the web security database. The service returns a soap response to the client.
CV Response	As defined in the Connectivity Test Schema

6.3 Internal Independent Testing

The business partner's organization will do its own, independent, unit/integration/system testing of its internal systems.

The major goal for the unit/integration/system test is to test all possible independently-testable application requirements and to leave only requirements that are not testable

internally for the end-to-end (intersystem) test which will involve both WorkSafeBC and the partner organization.

WorkSafeBC expects partners' development teams to test their code against the provided specifications, including, but not limited to the following:

- Validation of documents according to the PSP schemas and other business rules provided by WorkSafeBC
- Handling of the responses from WorkSafeBC web service (contact WorkSafeBC to obtain valid testing account numbers for the CV.B2B environment)

6.4 Partner Validation (End-to-End) Functional Testing

The next step is to conduct complete end-to-end or Partner Validation testing. The Partner Validation includes the following components:

- Security test
- Connectivity test
- Functional testing (business scenarios for submitting payroll reports. See also section 6.4.3 - Defect Tracking)

6.4.1 Partner Validation Specifications

The following objectives will be accomplished during Partner Validation:

- Submitting a periodic payroll report
- Submitting a reconciled payroll report
- Handling the response messages from WorkSafeBC web service by the partner's client application
- Ensuring that the proper coordination and timing of functions exist between the application systems
- Ensuring that invalid data submitted to WorkSafeBC web service are handled appropriately (contact WorkSafeBC to obtain valid testing account numbers for the end-to-end testing environment)

NOTE: A test specification is added to this document as an appendix.

6.4.2 Error handling and problem resolution

This section defines the various situations in which submissions are rejected. There are four basic points at which errors can occur. As discussed previously (see section 4.6- Submission Error Specifications) these errors are classified as:

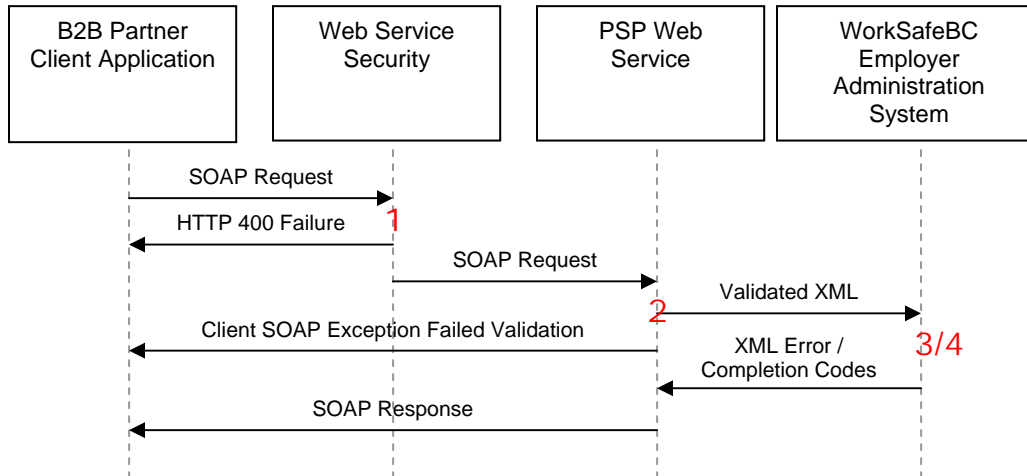
1. Connectivity or server errors
2. Security and SOAP exceptions
3. XML Schema validation errors
4. Business rule errors

These error capture points are shown in Figure 8.

The format for business rule error messages received from the PSP web service include:

- For each error (response may include multiple errors in some cases)
 - Error Code
 - Error Description
 - Error Node (if applicable – may contain multiple iterations), consisting of
 - Node Name
 - Node Value

Figure 8 – Error capture points in PSP data flow



NOTE: 1 = Connectivity or server errors; 2 = Security and SOAP exceptions, 3 = XML Schema validation and business rule errors, 4 = Business Rule errors

For more information, see Appendix B.

6.4.3 Defect Tracking

From the start of intersystem testing, WorkSafeBC will coordinate defects tracking by recording and tracking the status of defects found by either partners or WorkSafeBC. Partners will submit the status information for the defects owned by them. Partners will receive the status updates on defects owned by WorkSafeBC.

6.4.4 Testing Support – PSP Team Support

During testing, the PSP Support Team will be fully involved in managing testing events, testing, managing defects, and providing testing feedback. The PSP Support Team will be able to provide the following types of feedback to the partners about their tests:

- For a successful payroll report submission:
 1. The Web Service Security log contains an event recording the date and time of each successful transaction.

2. If an authorized service is delivered, the B2B Message Log contains a record of the submitted XML document, exactly as it was transmitted to the web service.
- For a rejected payroll report submission or failed request to the web service:
 1. The web service security log contains a record of each failed authentication attempt.
 2. The B2B Message Log also contains a record of any schema validation errors encountered for each submission. For detailed information, see Table 10.

Additional Support – Payroll Report Output

During the initial testing phases, the data submitted via the PSP web service can be printed as an HTML document, which can then be emailed, or printed and faxed to the partner.

7 Accessing the PSP Production environment

Once WorkSafeBC has confirmed a successful Partner Validation or end-to-end test, security access is granted to the production PSP Web Service. The URL for the production environment is:

<https://b2b.online.worksafebc.com/wcb.PSP.WebService/PayrollReport.aspx>

7.1 Production Support – WorkSafeBC Customer Service Centre (E Business Help Desk)

The WorkSafeBC E-Commerce Help Desk is equipped to support technical issues arising from errors generated by the web service. The Help Desk phone number is (604) 276-3135 or Toll free 1-888-855-2477.

Appendices

The Appendix contains four sections:

- PSP Field Lists
- PSP Error Codes
- PSP web service schemas
- Example Submission and Response Messages

Appendix A. – PSP Field List

The following table lists the data fields used for the PSP submissions under the following headings:

- Field Ref. No. – identifies fields
- Field Name – name of the data field
- Schema Node Name – as defined its respective schema
- Field Description – description of the data field
- Business Rules/Comments – describes business rules applied to the data field
- Data Type – data type and length of data field
- Possible Error Code – error codes generated during the validation of the payroll report

Table 6 – PSP Field List

Field Ref. No.	Field Name	Schema Node Name	Field Description	Business Rules/Comments	Data Type	Examples	Possible Error Codes
1	Partner Message Text	partnerMessageText	DEFINITION: A text area available for the partner to identify the message. Not validated or checked at WorkSafeBC.	None	Any	n/a	
2	Payroll Report Document Version Number	payrollReportDocumentVersionNumber	DEFINITION: A numeric value indicating the schema version number to which this document applies.	At the current time, only version "1.0" is supported.	Numeric	1.0	PSPE0015
3	Employer Identifier	employerIdentifier	DEFINITION: The WorkSafeBC account number of the employer for whom payroll is being reported.	The employer must exist	Numeric. Valid range is 1 – 999999.	167365	PSPE0002
4	Processor Identifier	processorIdentifier	DEFINITION: A code identifying the partner who is submitting the payroll report on behalf of the employer	The processor must be identified in the WorkSafeBC administrative system. This id will be provided by WorkSafeBC to the partner.	String. Maximum 10 characters.	PROC0012	PSPE0014

Field Ref. No.	Field Name	Schema Node Name	Field Description	Business Rules/Comments	Data Type	Examples	Possible Error Codes
5	Payroll Report Identifier	payrollReportIdentifier	DEFINITION: Identifies the paper form as the source document for the payroll report being submitted.	This field is optional if the payroll report year (and if required, quarter) are supplied. If provided, the payroll report identifier must exist in the WorkSafeBC database; the payroll report identifier must be related to the specified employer; the payroll report identifier must not be for a future period; the payroll report identifier must match the type identified by the root element name (ie. periodic or reconciled).	Numeric. Valid range is 1 – 9999999.	4913891	PSPE0003 PSPE0004 PSPE0006 PSPE0017
6	Payroll Report Calendar Year	payrollReportCalendarYear	DEFINITION: Identifies the year for which payroll is being reported.	Required when the payroll report identifier is not provided.	Numeric. For payroll reports submitted in the first quarter, cannot be less than current year – 9. For payroll reports submitted in the second, third, or fourth quarter, cannot be less than current year – 8. Cannot be greater than the current year.	2005	PSPE0007 PSPE0008 PSPE0009
7	Payroll Report Quarter Number	payrollReportQuarterNumber	DEFINITION: For a periodic payroll report, identifies the quarter for which payroll is being reported.	Required for periodic payroll reports when the payroll report identifier is not provided. Must not be provided for reconciled payroll reports.	Numeric. Valid values are 1 – 4.	2	
8	Payroll Report Received Date	payrollReportReceivedDate	DEFINITION: The date the paper form payroll report was received by the partner.	Required from partners who are External Data-entry Vendors. Not required from payroll service providers or employers.	A valid date in format yyyy-mm-dd. Must not be in the future.	2005-04-28	PSPE0013 PSPE0016
9	Classification Hierarchical Code	classificationHierarchicalCode	DEFINITION: Identifies a classification for which payroll is being reported.	Must be a valid classification unit number. When provided by partners who are External Data-entry Vendors it must be valid in the WorkSafeBC database in the payroll year being reported.	Numeric. Valid range is 700000 – 799999.	702006	PSPE0010

Field Ref. No.	Field Name	Schema Node Name	Field Description	Business Rules/Comments	Data Type	Examples	Possible Error Codes
10	Total Earnings Amount	totalEarningsAmount	DEFINITION: Provides the total earnings amount for a particular classification on a periodic payroll report.	Valid for a periodicPayrollReport only and must be provided. Must be an amount in whole dollars (no decimal places). Must not be negative.	Numeric, no decimals. Valid range is 0 – 999,999,999.	150000	
11	Wages and Salary Amount	wagesAndSalaryAmount	DEFINITION: Provides the total amount paid in wages and salary for a particular classification on a reconciled payroll report.	Valid for a reconciledPayrollReport only. Must be an amount in whole dollars (no decimal places). Must not be negative.	Numeric, no decimals. Valid range is 0 – 999,999,999.	1751531	
12	Subcontractor Earnings Amount	subcontractorEarningsAmount	DEFINITION: Provides the total amount paid to subcontractors for a particular classification on a reconciled payroll report.	Valid for a reconciledPayrollReport only. Must be an amount in whole dollars (no decimal places). Must not be negative.	Numeric, no decimals. Valid range is 0 – 999,999,999	15310	
13	Excess Earnings Amount	excessEarningsAmount	DEFINITION: Indicates the total amount of earnings which is more than the annual maximum per employee. ³	Valid for a reconciledPayrollReport only. Must be an amount in whole dollars (no decimal places). Must not be negative. For Payroll Service Provider partners only: Must be zero if the wages and salary amount is below the annual maximum. Cannot be greater than the sum of the wages and salary amount and the subcontractor earnings amount.	Numeric, no decimals. Valid range is 0 – 999,999,999	100	PSPE0011 PSPE0012
14	Contact Name	contactName	DEFINITION: Indicates the name of the contact person for the payroll report	Optional on reconciled payroll reports. Provide only if known. If provided, must not be an empty string. Must not be provided on periodic payroll reports.	String. Maximum length 80 characters.	Susan Smith	
15	Contact Position	contactPosition	DEFINITION: Indicates the position of the contact person.	Optional on reconciled payroll reports. Provide only if known. If provided, must not be an empty string. Must not be provided on periodic payroll reports.	String. Maximum length 80 characters.	Bookkeeper	

³ Annual Maximum Insurable Earnings is published by WorkSafeBC in the fall each year for the coming year.

Field Ref. No.	Field Name	Schema Node Name	Field Description	Business Rules/Comments	Data Type	Examples	Possible Error Codes
16	Contact Phone Number	contactPhoneNumber	DEFINITION: Indicates the phone number of the contact person.	Optional on reconciled payroll reports. Provide only if known. If provided, must not be an empty string. Must not be provided on periodic payroll reports.	Numeric. Must be 10 digits; no dashes or brackets.	6042321999	
17	Contact Fax Number	contactFaxNumber	DEFINITION: Indicates the fax number of the contact person.	Optional on reconciled payroll reports. Provide only if known. If provided, must not be an empty string. Must not be provided on periodic payroll reports.	Numeric. Must be 10 digits; no dashes or brackets.	6049131234	
18	Contact Email Address	contactEmailAddress	DEFINITION: Indicates the email address of the contact person.	Optional on reconciled payroll reports. Provide only if known. If provided, must not be an empty string. Must be a valid email address. Must not be provided on periodic payroll reports.	String. Maximum length 80 characters.	susan.smith@accounting.com	
19	Business Partner Identifier	Schema header - BusinessPartnerIdentifier	DEFINITION: The ID that is assigned to the partner upon registration in the PSP program.	This ID must be included in every submission as part of the SOAP header and is used for logging purposes.	String. Must be between 2 and 10 characters.	123456	
20	Business Partner Type	Schema header – BusinessPartnerType	DEFINITION: The role type that is assigned to the partner upon registration in the PSP program.	This code must be included in every submission as part of the SOAP header and is used for logging purposes.	String. Max length 4 characters.	EM	
21	Business Partner Token	Schema header - BusinessPartnerToken	DEFINITION: The token/identifier that is assigned to the partner upon registration in the PSP program.	This code must be included in every submission as part of the SOAP header.	String. Max length 36 characters.	CF3821ED-75E0-457E-A181-D89CA056A438	
22	Document root node	periodicPayrollReport OR reconciledPayrollReport	DEFINITION: Indicates the type of payroll report being submitted.	Mandatory.	String.	periodicPayrollReport	PSPE0018

Appendix B. – PSP Web Service Error Responses

Business Logic Error Codes for Payroll Service Providers

The following table summarizes the possible errors that can arise from PSP Web Service validation where a Payroll Service Provider system is the source of the payroll report information.

Table 7 – Business Logic Error Codes

Error Message Number	Error Message Text / Explanation	Field List Schema Node #	Associated Schema Node Name	Notes
PSPE0001	Payroll report does not conform to XML schema Explanation: The payroll report document does not conform to the XML schema published in this document. The error message will contain the message produced by the XML validating reader to assist you in correcting the error.	All	All	(once first schema error is detected then no further error checking occurs)
PSPE0002	Employer does not exist Explanation: The employer identifier in the document was not found in the WorkSafeBC database.	3	employerIdentifier	(if detected then no further error checking occurs)
PSPE0007	Calendar year is more than 9 years in the past Explanation: A periodic payroll report submitted in the first quarter cannot specify a calendar year more than 9 years in the past.	5, 6	payrollReportCalendarYear	Mutually exclusive with PSPE0008 and PSPE0009
PSPE0008	Calendar year is more than 8 years in the past Explanation: A periodic payroll report submitted in the second, third, or fourth quarter cannot specify a calendar year more than 8 years in the past.	5,6	payrollReportCalendarYear	Mutually exclusive with PSPE0007 and PSPE0009
PSPE0009	Calendar year exceeds the allowable maximum for this payroll type Explanation: A reconciled payroll report cannot specify a calendar year greater than the current year. A periodic payroll report cannot specify a calendar year greater than the current year plus one.	6	payrollReportCalendarYear	Mutually exclusive with PSPE0007 and PSPE0008

Error Message Number	Error Message Text / Explanation	Field List Schema Node #	Associated Schema Node Name	Notes
PSPE0011	Total excess earnings amount > 0 but total wages and salary amount less than or equal to annual maximum amount Explanation: The sum of all excess earnings amounts must be zero if the sum of all wages and salary amounts on the payroll report is less than or equal to the annual maximum amount. Note: this error will not be returned to an External Data Vendor or Payroll Service Provider.	13	classificationHierarchicalCode	Applies only to XML with root element of reconciledPayroll Report
PSPE0012	Excess earnings amount exceeds wages and salary amount Explanation: The excess earnings amount cannot exceed the wages and salary amount (by classification). Note: this error will not be returned to an External Data Vendor or Payroll Service Provider.	13	classificationHierarchicalCode	Applies only to XML with root element of reconciledPayroll Report
PSPE0014	Processor does not exist Explanation: The processor identifier specified in the document was not found in the WorkSafeBC database.	4	processorIdentifier	(if detected then no further error checking occurs)
PSPE0015	Document version number is invalid Explanation: The document version number is not supported. At the current time, only version 1.0 is supported by the WorkSafeBC web service.	2	payrollReportDocumentVersion Number	(if detected then no further error checking occurs)
PSPE0019	A technical error occurred processing the payroll report. Explanation: An internal error occurred during processing. Diagnostic information associated with internal errors is logged on the WorkSafeBC servers.	n/a	n/a	(if detected then no further error checking occurs)
PSPE0020	Classification hierarchical codes are not unique. Explanation: The classification hierarchical code has been specified on more than one "classification" element.	9	classificationHierarchicalCode	

Business Logic Error Codes for External Data-entry Vendors

The following table summarizes the possible errors that can arise from PSP Web Service validation where an External Data-entry Vendor uses a WorkSafeBC Form as the source of the payroll report information.

Table 8 – Business Logic Error Codes

Error Message Number	Error Message Text / Explanation	Field List Schema Node #	Associated Schema Node Name	Notes
PSPE0001	Payroll report does not conform to XML schema Explanation: The payroll report document does not conform to the XML schema published in this document. The error message will contain the message produced by the XML validating reader to assist you in correcting the error.	All	All	(once first error detected then no further error checking occurs)
PSPE0002	Employer does not exist Explanation: The employer identifier in the document was not found in the WorkSafeBC database.	3	employerIdentifier	(if detected then no further error checking occurs)
PSPE0003	Payroll report does not exist Explanation: The payroll report identifier in the document was not found in the WorkSafeBC database.	5	payrollReportIdentifier	(if detected then no further error checking occurs)
PSPE0004	Payroll report is not associated with employer Explanation: Both the payroll report identifier and employer identifier were found, but the two identifiers are not related.	3, 5	employerIdentifier payrollReportIdentifier	
<i>PSPE0005</i>	<i>Reserved for future use</i>			
PSPE0006	Payroll report does not match the indicated type Explanation: The payroll report identifier exists in the WorkSafeBC database, but the type of payroll report is not the same as the one named in the root element of the document (ie. periodic or reconciled).	5	payrollReportIdentifier	
PSPE0010	Classification hierarchical code does not exist in the payroll year Explanation: The classification hierarchical code was not found in the WorkSafeBC database as of the year for which payroll is being submitted.	9	classificationHierarchicalCode	

Error Message Number	Error Message Text / Explanation	Field List Schema Node #	Associated Schema Node Name	Notes
PSPE0011	Total excess earnings amount > 0 but total wages and salary amount less than or equal to annual maximum amount Explanation: The sum of all excess earnings amounts must be zero if the sum of all wages and salary amounts on the payroll report is less than or equal to the annual maximum amount. Note: this error will not be returned to an External Data Vendor or Payroll Service Provider.	13	classificationHierarchicalCode	Applies only to XML with root element of reconciledPayroll Report
PSPE0012	Excess earnings amount exceeds wages and salary amount Explanation: The excess earnings amount cannot exceed the wages and salary amount (by classification). Note: this error will not be returned to an External Data Vendor or Payroll Service Provider.	13	classificationHierarchicalCode	Applies only to XML with root element of reconciledPayroll Report
PSPE0013	Received date is greater than current date Explanation: The received date cannot be greater than the current date.	8	payrollReportReceivedDate	
PSPE0014	Processor does not exist Explanation: The processor identifier specified in the document was not found in the WorkSafeBC database.	4	processorIdentifier	(if detected then no further error checking occurs)
PSPE0015	Document version number is invalid Explanation: The document version number is not supported. At the current time, only version 1.0 is supported by the WorkSafeBC web service.	2	payrollReportDocumentVersionNumber	(if detected then no further error checking occurs)
PSPE0016	Received date must be specified for your partner type Explanation: Partners who are external data vendors are required to supply a received date on the document. This date is optional for other partner types.	8	payrollReportReceivedDate processorIdentifier	
PSPE0017	Payroll report identifier must be specified for your partner type. Explanation: Partners who are external data vendors are required to supply a payroll report identifier on the document. This identifier is optional for other partner types.	5	payrollReportIdentifier	

Error Message Number	Error Message Text / Explanation	Field List Schema Node #	Associated Schema Node Name	Notes
PSPE0018	Employer is not a quarterly reporter in the payroll period. Explanation: A periodic payroll report has been submitted for an employer who is not a quarterly reporter in the payroll period.	n/a	classificationHierarchicalCode	
PSPE0019	A technical error occurred processing the payroll report. Explanation: An internal error occurred during processing. Diagnostic information associated with internal errors is logged on the WorkSafeBC servers.	n/a	n/a	(if detected then no further error checking occurs)
PSPE0020	Classification hierarchical codes are not unique. Explanation: The classification hierarchical code has been specified on more than one "classification" element.	9	classificationHierarchicalCode	

PSP Security/Server Failure Error Messages

The following table summarizes the possible error codes provided in the response message from the PSP Web Services Security Module:

Table 9 – PSP Security Failure Message

Error Message	Description	Resolution
400	No SOAP action, not a SOAP request, not a Web Service call	Add a soap action to the request
<pre>500 - <?xml version="1.0" encoding="utf-8"?> <soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> <soap:Body> <soap:Fault> <faultcode>soap:Client</faultcode> <faultstring>System.Web.Services.Protocols.SoapException: Server Error: Access denied.</faultstring> <detail/> </soap:Fault> </soap:Body> </soap:Envelope></pre>	Invalid requestor – Authentication Business Partner ID - As defined in Field # 19. Business Partner Type - As defined in Field # 20. Business Partner Token - As defined in Field # 21. Business Partner IP Address(es)	See section 4.4.1- Getting Authorized for WorkSafeBC Web Services.
<pre>500 - <?xml version="1.0" encoding="utf-8"?> <soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> <soap:Body> <soap:Fault> <faultcode>soap:Client</faultcode> <faultstring>System.Web.Services.Protocols.SoapException: Server Error: Access denied.</faultstring> <detail/> </soap:Fault> </soap:Body> </soap:Envelope></pre>	SOAP action: unauthorized	Contact the WorkSafeBC Customer Support Centre at (604) 276-3135 or Toll Free 1-888-855-2477 to request access to the desired web service.

Table 10 – PSP Server Failure Message

Error Message	Description	Resolution
<pre>500 - <?xml version="1.0" encoding="utf-8"?> <soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema"> <soap:Body> <soap:Fault> <faultcode>soap:Server</faultcode> <faultstring>System.Web.Services.Protocols.SoapException: Server Error: Access denied.</faultstring> <detail/> </soap:Fault> </soap:Body> </soap:Envelope></pre>	Internal WorkSafeBC Server Error. The details of this event are logged internally.	Contact the WorkSafeBC E-business Help Desk at (604) 276-3135 or Toll Free 1-888-855-2477 to report a server failure.

B2B Message Logs

The following table defines how messages are logged by the PSP. Logs are used for troubleshooting purposes.

Table 11 – B2B Message Log table

Transaction Outcome	B2B Message Log Elements			
	Message Name	Message Text	Error Code	Error Text
Successful submission	method	incoming xml (SOAP body text)	NA	NA
Schema errors	method	incoming xml (SOAP body text)	-10	related schema error message
Incident handler validation error	method	incoming xml (SOAP body text)	-11	related incident handler error notification xml
Incident handler inserter error	method	incoming xml (SOAP body text)	-12	related error message

Appendix C. – PSP web services schemas

Payroll Report web service WSDL

```

<?xml version="1.0" encoding="utf-8"?>
<wsdl:definitions xmlns:s1="http://localhost/wcb.PSP.WebService" xmlns:http="http://schemas.xmlsoap.org/wsdl/http/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:s="http://www.w3.org/2001/XMLSchema"
xmlns:s0="http://localhost/wcb.PSP.Webservice" xmlns:s2="http://B2B.online.worksafebc.com/wsSecurity"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/" xmlns:tns="http://tempuri.org"
xmlns:tm="http://microsoft.com/wsdl/mime/textMatching/" xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
targetNamespace="http://tempuri.org" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">

  <wsdl:types>
    <s:schema elementFormDefault="qualified" targetNamespace="http://localhost/wcb.PSP.Webservice">
      <s:element name="payrollReport" type="s:string"/>
    </s:schema>
    <s:schema elementFormDefault="qualified" targetNamespace="http://localhost/wcb.PSP.WebService">
      <s:element name="PayrollReportResponse" type="s:string"/>
    </s:schema>
    <s:schema elementFormDefault="qualified" targetNamespace="http://B2B.online.worksafebc.com/wsSecurity">
      <s:element name="wcbSecurityHeader" type="s2:wcbSecurityHeaderType"/>
      <s:complexType name="wcbSecurityHeaderType">
        <s:sequence>
          <s:element minOccurs="0" maxOccurs="1" name="BusinessPartnerID" type="s:string"/>
          <s:element minOccurs="0" maxOccurs="1" name="BusinessPartnerType" type="s:string"/>
          <s:element minOccurs="0" maxOccurs="1" name="BusinessPartnerToken" type="s:string"/>
        </s:sequence>
      </s:complexType>
    </s:schema>
  </wsdl:types>

  <wsdl:message name="SubmitPayrollReportSoapIn">
    <wsdl:part name="payrollReport" element="s0:payrollReport"/>
  </wsdl:message>
  <wsdl:message name="SubmitPayrollReportSoapOut">
    <wsdl:part name="SubmitPayrollReportResult" element="s1:PayrollReportResponse"/>
  </wsdl:message>
  <wsdl:message name="SubmitPayrollReportwcbSecurityHeader">
    <wsdl:part name="wcbSecurityHeader" element="s2:wcbSecurityHeader"/>
  </wsdl:message>

  <wsdl:portType name="PayrollReportSoap">
    <wsdl:operation name="SubmitPayrollReport">
      <wsdl:input message="tns:SubmitPayrollReportSoapIn"/>
      <wsdl:output message="tns:SubmitPayrollReportSoapOut"/>
    </wsdl:operation>
  </wsdl:portType>

  <wsdl:binding name="PayrollReportSoap" type="tns:PayrollReportSoap">
    <soap:binding transport="http://schemas.xmlsoap.org/soap/http" style="document"/>
    <wsdl:operation name="SubmitPayrollReport">
      <soap:operation soapAction="SubmitPayrollReport" style="document"/>
      <wsdl:input>
        <soap:body use="literal"/>
        <soap:header message="tns:SubmitPayrollReportwcbSecurityHeader" part="wcbSecurityHeader"
use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
  </wsdl:binding>

  <wsdl:service name="PayrollReport">

```

```

    <documentation xmlns="http://schemas.xmlsoap.org/wsdl/" />
    <wsdl:port name="PayrollReportSoap" binding="tns:PayrollReportSoap">
      <soap:address location="https://<*** URL SUPPLIED BY WorkSafeBC
***>/wcb.PSP.Webservice/PayrollReport.asmx"/>
    </wsdl:port>
  </wsdl:service>

</wsdl:definitions>

```

PayrollReport Document schema:

```

<?xml version="1.0" encoding="UTF-8" ?>

<!-- edited with XMLSPY v5 rel. 4 U (http://www.xmlspy.com) by David Webb (Workers' Compensation Board) -->

<xs:schema targetNamespace="http://B2B.online.worksafebc.com/PSP" xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified" attributeFormDefault="unqualified" xmlns="http://B2B.online.worksafebc.com/PSP">

  <xs:element name="periodicPayrollReport" type="periodicPayrollReportType" />
  <xs:element name="reconciledPayrollReport" type="reconciledPayrollReportType" />

  <xs:complexType name="periodicPayrollReportType">
    <xs:sequence>
      <xs:element name="partnerMessageText" type="partnerMessageTextType" minOccurs="0" />
      <xs:element name="payrollReportIdentification" type="periodicPayrollReportIdentificationType" />
      <xs:element name="classifications" type="periodicClassificationsType">
        <xs:unique name="uniquePeriodicClassificationHierarchicalCodeCheck">
          <xs:selector xpath="classification" />
          <xs:field xpath="@classificationHierarchicalCode" />
        </xs:unique>
      </xs:element>
    </xs:sequence>

    <xs:attribute name="version" use="required" />
  </xs:complexType>

  <xs:complexType name="periodicClassificationsType">
    <xs:sequence>
      <xs:element name="classification" type="periodicClassificationType" maxOccurs="unbounded" />
    </xs:sequence>
  </xs:complexType>

  <xs:complexType name="classificationType">
    <xs:attribute name="classificationHierarchicalCode" type="classificationHierarchicalCodeType"
      use="required" />
  </xs:complexType>

  <xs:complexType name="periodicClassificationType">
    <xs:complexContent>
      <xs:extension base="classificationType">
        <xs:sequence>
          <xs:element name="totalEarningsAmount" type="payrollReportAmountType" />
        </xs:sequence>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>

  <xs:complexType name="periodicPayrollReportIdentificationType">
    <xs:sequence>
      <xs:element name="employerIdentifier" type="employerIdentifierType" />
      <xs:element name="processorIdentifier" type="processorIdentifierType" />
      <xs:choice>
        <xs:element name="payrollReportIdentifier" type="payrollReportIdentifierType" />
        <xs:sequence>
          <xs:element name="payrollReportCalendarYear"
            type="payrollReportCalendarYearType" />

```

```

        <xs:element name="payrollReportQuarterNumber"
type="payrollReportQuarterNumberType" />
    </xs:sequence>
</xs:choice>
<xs:element name="payrollReportReceivedDate" type="xs:date" minOccurs="0" />
</xs:sequence>
</xs:complexType>

<xs:complexType name="reconciledPayrollReportType">
    <xs:sequence>
        <xs:element name="partnerMessageText" type="partnerMessageTextType" minOccurs="0" />
        <xs:element name="payrollReportIdentification" type="reconciledPayrollReportIdentificationType" />
        <xs:element name="classifications" type="reconciledClassificationsType">
            <xs:unique name="uniqueReconciledClassificationHierarchicalCodeCheck">
                <xs:selector xpath="classification" />
                <xs:field xpath="@classificationHierarchicalCode" />
            </xs:unique>
        </xs:element>
        <xs:element name="payrollContactDetails" type="payrollContactDetailsType" minOccurs="0" />
    </xs:sequence>
    <xs:attribute name="version" type="payrollReportDocumentVersionNumberType" use="required" />
</xs:complexType>

<xs:complexType name="reconciledPayrollReportIdentificationType">
    <xs:sequence>
        <xs:element name="employerIdentifier" type="employerIdentifierType" />
        <xs:element name="processorIdentifier" type="processorIdentifierType" />
        <xs:choice>
            <xs:element name="payrollReportIdentifier" type="payrollReportIdentifierType" />
            <xs:element name="payrollReportCalendarYear" type="payrollReportCalendarYearType" />
        </xs:choice>
    </xs:sequence>
    <xs:element name="payrollReportReceivedDate" type="xs:date" minOccurs="0" />
</xs:complexType>

<xs:complexType name="reconciledClassificationsType">
    <xs:sequence>
        <xs:element name="classification" type="reconciledClassificationType" maxOccurs="unbounded" />
    </xs:sequence>
</xs:complexType>

<xs:complexType name="reconciledClassificationType">
    <xs:complexContent>
        <xs:extension base="classificationType">
            <xs:sequence>
                <xs:element name="wagesAndSalaryAmount" type="payrollReportAmountType" />
                <xs:element name="subcontractorEarningsAmount" type="payrollReportAmountType" />
                <xs:element name="excessEarningsAmount" type="payrollReportAmountType" />
            </xs:sequence>
        </xs:extension>
    </xs:complexContent>
</xs:complexType>

<xs:complexType name="payrollContactDetailsType">
    <xs:sequence>
        <xs:element name="contactName" type="contactDetailsTextType" minOccurs="0" />
        <xs:element name="contactPosition" type="contactDetailsTextType" minOccurs="0" />
        <xs:element name="contactPhoneNumber" type="phoneNumberType" minOccurs="0" />
        <xs:element name="contactFaxNumber" type="phoneNumberType" minOccurs="0" />
        <xs:element name="contactEmailAddress" type="contactDetailsTextType" minOccurs="0" />
    </xs:sequence>
</xs:complexType>

<xs:complexType name="partnerMessageTextType" mixed="true">
    <xs:sequence>
        <xs:any processContents="skip" minOccurs="0" maxOccurs="unbounded" />
    </xs:sequence>
</xs:complexType>

```

```

        </xs:sequence>
    </xs:complexType>

    <!-- simple type definitions -->

    <xs:simpleType name="employerIdentifierType">
        <xs:annotation>
            <xs:documentation>A generic type for employer ids (1-999999)</xs:documentation>
        </xs:annotation>
        <xs:restriction base="xs:positiveInteger">
            <xs:minInclusive value="1" />
            <xs:maxInclusive value="999999" />
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="processorIdentifierType">
        <xs:annotation>
            <xs:documentation>A generic type for processor ids. Must consist of 1-10 alphanumeric
characters.</xs:documentation>
        </xs:annotation>
        <xs:restriction base="xs:string">
            <xs:pattern value="[A-Za-z0-9]{1,10}" />
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="payrollReportIdentifierType">
        <xs:annotation>
            <xs:documentation>A generic type for payroll report ids (1-99999999)</xs:documentation>
        </xs:annotation>
        <xs:restriction base="xs:positiveInteger">
            <xs:minInclusive value="1" />
            <xs:maxInclusive value="99999999" />
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="payrollReportCalendarYearType">
        <xs:annotation>
            <xs:documentation>A valid payroll report year (1990 to 2999)</xs:documentation>
            <xs:documentation>Business rules will restrict the year further. See the Technical Specifications
document for more info.</xs:documentation>
        </xs:annotation>
        <xs:restriction base="xs:positiveInteger">
            <xs:minInclusive value="1990" />
            <xs:maxInclusive value="2999" />
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="payrollReportQuarterNumberType">
        <xs:annotation>
            <xs:documentation>A valid payroll quarter (1-4)</xs:documentation>
        </xs:annotation>
        <xs:restriction base="xs:positiveInteger">
            <xs:minInclusive value="1" />
            <xs:maxInclusive value="4" />
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="classificationHierarchicalCodeType">
        <xs:annotation>
            <xs:documentation>A generic type to validate classification hierarchical codes (1-
999999)</xs:documentation>
        </xs:annotation>
        <xs:restriction base="xs:positiveInteger">
            <xs:minInclusive value="1" />
            <xs:maxInclusive value="999999" />
        </xs:restriction>
    </xs:simpleType>

    <xs:simpleType name="payrollReportAmountType">
        <xs:annotation>

```

```

                <xs:documentation>A generic type for whole dollar amounts between $0 and
$999,999,999</xs:documentation>
            </xs:annotation>
            <xs:restriction base="xs:integer">
                <xs:minInclusive value="0" />
                <xs:maxInclusive value="999999999" />
            </xs:restriction>
        </xs:simpleType>

        <xs:simpleType name="phoneNumberType">
            <xs:annotation>
                <xs:documentation>A generic type to validate 10-digit phone numbers (no dashes, spaces, or
parentheses)</xs:documentation>
            </xs:annotation>
            <xs:restriction base="xs:string">
                <xs:pattern value="\d{10}" />
            </xs:restriction>
        </xs:simpleType>

        <xs:simpleType name="contactDetailsTextType">
            <xs:annotation>
                <xs:documentation>A generic type to validate strings with a maximum length of 80
characters</xs:documentation>
            </xs:annotation>
            <xs:restriction base="xs:string">
                <xs:minLength value="1" />
                <xs:maxLength value="80" />
            </xs:restriction>
        </xs:simpleType>
    </xs:schema>
```

Sample Payroll Report Submission documents:

Sample 1: A periodic payroll report, with 2 classifications, using calendar year and quarter

```
<?xml version="1.0" encoding="utf-8"?>
<periodicPayrollReport xmlns="http://B2B.online.worksafebc.com/PSP" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
version="1.0">
  <partnerMessageText>
    <batchNumber>995</batchNumber>
    <batchSubmissionDate>2005-04-28</batchSubmissionDate>
  </partnerMessageText>
  <payrollReportIdentification>
    <employerIdentifier>001770</employerIdentifier>
    <processorIdentifier>PROC0012</processorIdentifier>
    <payrollReportCalendarYear>2005</payrollReportCalendarYear>
    <payrollReportQuarterNumber>1</payrollReportQuarterNumber>
  </payrollReportIdentification>
  <classifications>
    <classification classificationHierarchicalCode="702006">
      <totalEarningsAmount>1100000</totalEarningsAmount>
    </classification>
    <classification classificationHierarchicalCode="731535">
      <totalEarningsAmount>2100000</totalEarningsAmount>
    </classification>
  </classifications>
</periodicPayrollReport>
```

Sample 2: A periodic payroll report, with 1 classification, using payroll report identifier, and indicating a received date

```
<?xml version="1.0" encoding="utf-8"?>
<periodicPayrollReport xmlns="http://B2B.online.worksafebc.com/PSP" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
version="1.0">
  <partnerMessageText>
    <msgID>{1f16d20c-4090-4875-87ad-072d5b61f5cd}</msgID>
  </partnerMessageText>
  <payrollReportIdentification>
    <employerIdentifier>297138</employerIdentifier>
    <processorIdentifier>AL09014</processorIdentifier>
    <payrollReportIdentifier>4915341</payrollReportIdentifier>
    <payrollReportReceivedDate>2005-01-17</payrollReportReceivedDate>
  </payrollReportIdentification>
  <classifications>
    <classification classificationHierarchicalCode="714002">
      <totalEarningsAmount>19175</totalEarningsAmount>
    </classification>
  </classifications>
</periodicPayrollReport>
```

Sample 3: A reconciled payroll report, with 2 classifications, using calendar year

```
<?xml version="1.0" encoding="utf-8"?>
<reconciledPayrollReport xmlns="http://B2B.online.worksafebc.com/PSP" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" version="1.0">
  <partnerMessageText>3531</partnerMessageText>
  <payrollReportIdentification>
    <employerIdentifier>001770</employerIdentifier>
    <processorIdentifier>PSP09012</processorIdentifier>
    <payrollReportCalendarYear>2004</payrollReportCalendarYear>
  </payrollReportIdentification>
  <classifications>
    <classification classificationHierarchicalCode="703410">
      <wagesAndSalaryAmount>1100000</wagesAndSalaryAmount>
      <subcontractorEarningsAmount>99999</subcontractorEarningsAmount>
      <excessEarningsAmount>0</excessEarningsAmount>
    </classification>
  </classifications>
</reconciledPayrollReport>
```

```

    <classification classificationHierarchicalCode="702091">
      <wagesAndSalaryAmount>1100000</wagesAndSalaryAmount>
      <subcontractorEarningsAmount>99999</subcontractorEarningsAmount>
      <excessEarningsAmount>0</excessEarningsAmount>
    </classification>
  </classifications>
  <payrollContactDetails>
    <contactName>Joe Smith</contactName>
    <contactPosition>Accountant</contactPosition>
    <contactPhoneNumber>6042321844</contactPhoneNumber>
    <contactFaxNumber>6041234567</contactFaxNumber>
    <contactEmailAddress>joe@accounting.ca</contactEmailAddress>
  </payrollContactDetails>
</reconciledPayrollReport >

```

Sample 4: A reconciled payroll report, with 1 classification, using payroll report identifier, no partner message text, and only a contact phone number

```

<?xml version="1.0" encoding="utf-8"?>
<reconciledPayrollReport xmlns="http://B2B.online.worksafebc.com/PSP" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" version="1.0">
  <payrollReportIdentification>
    <employerIdentifier>001770</employerIdentifier>
    <processorIdentifier>EDV00001</processorIdentifier>
    <payrollReportIdentifier>4991212</payrollReportIdentifier>
  </payrollReportIdentification>
  <classifications>
    <classification classificationHierarchicalCode="713001">
      <wagesAndSalaryAmount>68789</wagesAndSalaryAmount>
      <subcontractorEarningsAmount>0</subcontractorEarningsAmount>
      <excessEarningsAmount>105</excessEarningsAmount>
    </classification>
  </classifications>
  <payrollContactDetails>
    <contactPhoneNumber>6041918584</contactPhoneNumber>
  </payrollContactDetails>
</reconciledPayrollReport >

```

Sample Payroll Report Response documents:

Sample 1: A sample response document for a successful submission:

```

<?xml version="1.0" encoding="utf-8"?>
<payrollReportResponse xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns="http://B2B.online.worksafebc.com/PSP">
  <Acknowledgement>
    <TransactionDateTime>2005-02-07-09.54.02.143960</TransactionDateTime>
    <TransactionIdentifier>3dcc158f-b1c9-4444-b051-c3e3240c0079</TransactionIdentifier>
  </Acknowledgement>
</payrollReportResponse>

```

Sample 2: A sample response document for an unsuccessful submission due to an XML schema error:

```

<?xml version="1.0" encoding="utf-8"?>
<payrollReportResponse xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns="http://B2B.online.worksafebc.com/PSP">
  <ErrorNotification>
    <TransactionDateTime>2005-02-07-09.54.02.143960</TransactionDateTime>
    <Error>
      <ErrorCode>PSPE0001</ErrorCode>
      <ErrorDescription>Payroll report does not conform to XML schema: Invalid value for datatype positiveInteger in
element 'payrollReportCalendarYear'</ErrorDescription>
    </Error>
  </ErrorNotification>
</payrollReportResponse>

```

```
</ErrorNotification>
</payrollReportResponse>
```

Sample 3: A sample response document for an unsuccessful submission due to a business logic error:

```
<?xml version="1.0" encoding="utf-8"?>
<payrollReportResponse xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns="http://B2B.online.worksafebc.com/PSP">
  <ErrorNotification>
    <TransactionDateTime>2005-02-07-09.54.02.143960</TransactionDateTime>
    <Error>
      <ErrorCode>PSPE0010</ErrorCode>
      <ErrorDescription>Classification hierarchical code does not exist in the payroll year</ErrorDescription>
      <ErrorNode>
        <NodeName>classificationHierarchicalCode</NodeName>
        <NodeValue>702003</NodeValue>
      </ErrorNode>
    </Error>
  </ErrorNotification>
</payrollReportResponse>
```