

ServiceChannel

PROVIDER XML INTEGRATION

V.4.8 AS OF 2018-02-12

Visit [XML Integration](#) in SCU for additional information

CONTENTS

[WHAT'S NEW](#)

[OVERVIEW](#)

[Available integration options](#)

[Integration workflow](#)

[XML INTEGRATION ROADMAP](#)

[Getting started](#)

[Changing user linked to XML integration](#)

[Mapping Trade, Status, and Priority lists](#)

[Creating endpoint for receiving XML messages](#)

[Connecting to real clients](#)

[Setting up production endpoint](#)

[Going live](#)

[DATA MODEL](#)

[XML Schema Definition](#)

[WSDL file](#)

[FIELD DESCRIPTIONS](#)

[Field type formats](#)

[Credentials section](#)

[Work order section](#)

[Note section](#)

[Check in/out section](#)

[AVAILABLE STATUSES](#)

[General notes](#)

[Mapping table for XML-specific statuses](#)

[Support for all ServiceChannel statuses](#)

[OUTGOING \(SERVICECHANNEL TO PROVIDER\) XML MESSAGE SAMPLES](#)

[Message encoding](#)

[HTTP GET method](#)

[HTTP POST method](#)

[New Work Order](#)

[New Work Order — status other than OPEN](#)

[New Work Order — with Asset](#)

[New Work Order — reassigned](#)

[WO Update](#)

[General notes](#)

[WO Update — Note](#)

[WO Update — Status, Schedule Date, and NTE](#)

[WO Update — reassigned](#)

[WO Update — Check In](#)

[WO Update — Check Out](#)

[INCOMING \(PROVIDER TO SERVICECHANNEL\) XML MESSAGE SAMPLES](#)

[ServiceChannel endpoints](#)

[HTTP GET method](#)

[HTTP POST method](#)

[General notes](#)

[Create WO requests](#)

[Create WO request with non-zero NTE](#)

[Create WO request with defined Expiration Time](#)

[Create WO request with Problem Type and Problem code](#)

[Update WO requests](#)

[Update WO_NUM using TR_NUM](#)

[Update Status](#)

[Update Status using TR_NUM](#)

[Update Status using WO_NUM](#)

[Update Status to COMPLETED PENDING \(COMPL_DATETIME required\)](#)

[Update Status with Resolution](#)

[Change Scheduled Date](#)

[Add Note](#)

[Add simple Note](#)

[Add Note with ACTION_REQUIRED — emails sent to WO followers](#)

[Add Note with ACTION_REQUIRED and MAIL_TO — emails sent to specified recipients](#)

[Check In](#)

[Check Out](#)

[Completion date/time in CHECK section](#)

[Completion date/time in CALL section](#)

[Change Status to Incomplete](#)

[Check In/Out with different PIN](#)

[Incoming XML responses](#)

[Responses to create WO request](#)

[Responses to update WO request](#)

[ERROR HANDLING](#)

[Preprocessing error messages](#)

[Processing error messages](#)

[WEB SERVICE](#)

[TESTING INFRASTRUCTURE](#)

[INCOMING XML WALKTHROUGH](#)

[FAQ](#)

WHAT'S NEW

Version	Date	Changes
4.3	2016-02-22	Create WO request with non-zero NTE added Support for SC statuses added OUTGOING XML MESSAGE SAMPLES updated FAQ updated (WO attachments and invoices upload)
4.4	2016-07-05	Note added (LINE field is now deprecated) MAIL_TO field added.
4.5	2016-11-04	Processing error messages updated EXPIRATION_DATETIME field added
4.6	2017-02-23	Processing error messages updated Support for PIN in <CHECK> tag added PROBLEM_TYPE and PROBLEM_CODE fields added Note: These changes are to be pushed into production around April 11, 2017.
4.7	2017-04-01	Changing user linked to XML integration updated FAQ updated TECHS_COUNT field added Note: These changes are to be pushed into production around April 25, 2017.
4.8	2018-02-12	WO_NUM/PO_NUM field size and descriptions updated Processing error messages updated FAQ updated Note: These changes are to be pushed into production around March 10, 2018.

OVERVIEW

ServiceChannel provides a variety of integration options to eliminate double-entry. These options vary from email notifications to the customized XML integration. This document contains all information required for the XML integration.

The XML integration requires a joint project between a provider and ServiceChannel.

Available integration options

The following data can be exchanged between ServiceChannel and a provider through the XML integration:

Outgoing XML (from SC)	Incoming XML (to SC)
New Work Order (WO) notification	Create Work Order
Reassign Provider notification	Decline Work Order
Schedule Date update notification	Update Schedule Date
NTE update notification	
WO Status update notification	Update WO Status
New WO Note notification	Add WO Note
IVR or Mobile Check In/Out notification	Report Check In/Out

Your clients, which are also called subscribers, can define which WO data you can update by sending XML requests (incoming XML). Clients can also allow or disallow to change some specific WO data by enabling or disabling special permissions:

- Create new Work Order
- Create new Work Order with non-zero NTE value
- Create new Note
- Update WO Status
- Update WO Status to COMPLETED
- Report IVR or Mobile Check In/Out
- Set Resolution

To obtain these permissions, ask your clients to sign the [Web integration client agreement](#) and email it to ServiceChannel.

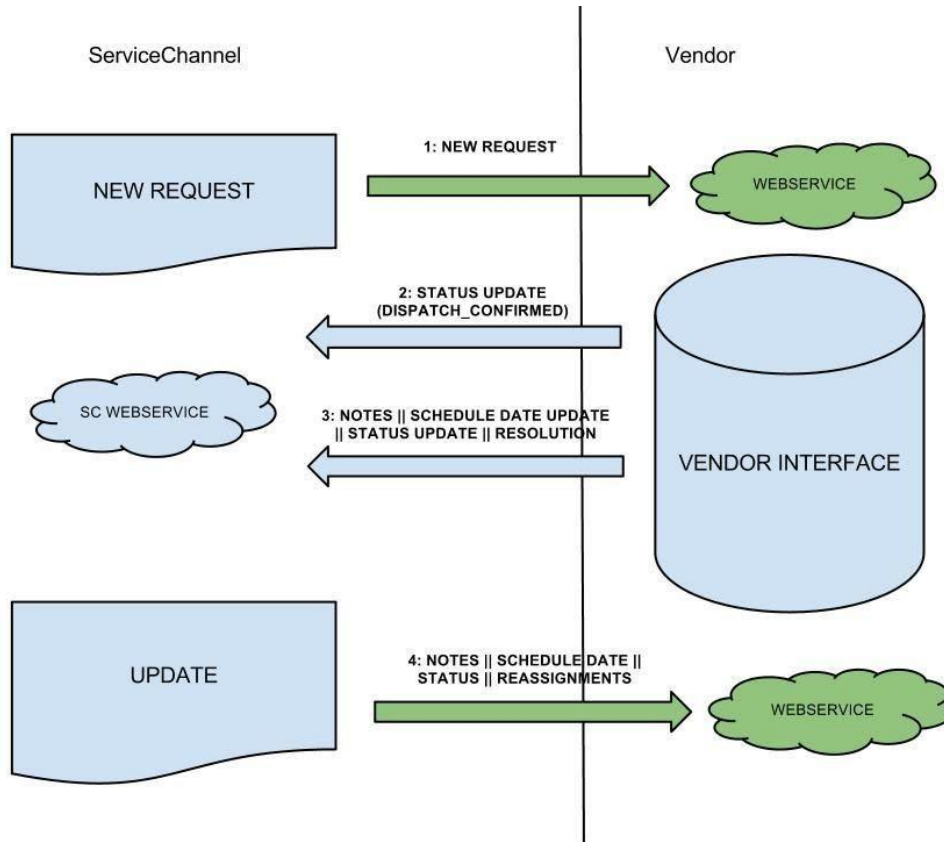
You can define which notifications you want to get from ServiceChannel. You can enable/disable the following notifications:

- New Work Order notifications
- Update Work Order notifications (Status change, NTE update, New Notes, etc.)
- IVR or Mobile Check In/Out notifications

All these parameters should be discussed during the initial connection, but can be enabled/disabled later on through additional requests.

Integration workflow

In the XML integration, the data in XML messages is “pushed” between web services (endpoints) running 24/7 both on ServiceChannel and provider sides.



Incoming integration is provided by ASMX Web Service that supports standard POST/GET methods over HTTPS (port 443).

Outgoing integration support HTTP(S) POST and GET requests. You can use any port in the application running on your side. The default values are 80 for HTTP and 443 for HTTPS. Also, the basic authentication can be used as an option. You can also select to receive data either in JSON or XML format.

Note: We highly recommend to use a POST method over HTTPS for both incoming and outgoing XML.

XML INTEGRATION ROADMAP

Getting started

When you start working with the XML integration, you will get access to our test environment, which is usually called Sandbox or SB2. Most likely, you will get an email with the following information:

Below is some important information for testing purposes

Provider XML Credentials

Provider ID: xxxxxxxxx

PIN: yyyyyy

StoreID: ZZZaaaaaaaa

CustomerID: ZZZxmlaaaaaaaa

Test Subscriber Credentials

Subscriber ID: 2014917018

URL: <https://sb2login.servicechannel.com>

User ID: bbbbXML

Password: ccccXML1

With these credentials at hand, you can start learning how the XML integration works. Here is a list of what you can do next:

1. Get familiar with this document.
2. Visit the [XML Integration](#) section in ServiceChannel University (SCU) for additional information, hints, samples, etc.
3. Go to [SC login page](#) and sign in to our system as a subscriber user with the provided Test Subscriber credentials.
4. Create a WO (also called a service request) and assign it to your provider.
5. Open [SC login page](#) in a different browser and sign in to our system as a provider user using your company account. You should see the created WO that is assigned to your company.
6. Go to [Test Web Service](#), enter StoreID and CustomerID, and try to post some XML messages referring to the samples in this document. Do not forget to change the PIN and TR_NUM values.
7. Go back to the subscriber account and check if the WO has been modified according to your XML messages.

Note: Both provider user account and subscriber user account, which is created for testing purposes within Test Subscriber, are available in all environments: [Sandbox](#) (SB2) and [Production](#). This allows you to run all kinds of tests — just be accurate and don't mix up the environments.

Note: The Production DB is replicated to SB2 each weekend. This means the following:

- Each Monday the SB2 environment contains all changes that were made during the previous week in the Production environment.
- All changes made during the previous week directly in SB2 are lost, so avoid starting testing on Friday.
- SB2 can be temporarily unavailable while the data is being copied from the Production environment to SB2.

Changing user linked to XML integration

When setting up the XML integration, a random user is linked to the XML integration. This username and email appear in WO notes, IVR reports, and status change records when these changes are reported via XML. This user is referenced by the unique numeric attribute — IVR PIN. The IVR PIN is stored in the PIN field of the <DATA2SC> tag and is present in all XML messages.

If this user is disabled for some reasons, your XML integration will be broken. A good practice here is to create a separate “integration” user instead of using the default one. To select another “integration” user, contact contractorsupport@servicechannel.com.

Mapping Trade, Status, and Priority lists

Most probably, you are not creating your system from scratch, but integrating the SC system with the existing system. Your company definitely uses its own set of internal Trades, Statuses, Priorities, etc.

To implement the XML integration, create a mapping between values used in ServiceChannel and values used in your company.

Note: You should receive a file from ServiceChannel with lists of Trades, Statuses, and Priorities for the Test Subscriber. These values are default.

Your clients may have lists of Trades, Statuses, and Priorities that are specific to their companies. Before going live, we will provide you with the actual values that your clients use. This means that your mapping table should be flexible.

Creating endpoint for receiving XML messages

To test the outgoing XML, implement your web service (endpoint). This endpoint should run 24/7 and be available outside of your network on any port.

Provide ServiceChannel with your test endpoint URL and ask us to add this URL to the Sandbox environment. Specify which HTTP method (POST or GET) your endpoint supports. We recommend using the POST method.

Important note: Ensure your firewall does not block the access to your web service. ServiceChannel can provide you with a list of IP addresses so that you can whitelist them.

After that, update a test WO and check if your endpoint has received the corresponding XML messages.

Connecting to real clients

If XML integration testing was successful, start working with real clients. Here is what happens next:

1. You fill out the [Web integration client agreement](#) that defines your XML permissions.
2. Your client signs the agreement.
3. You email the signed agreement to ServiceChannel.
4. ServiceChannel configures XML permissions according to the received agreement.
5. ServiceChannel provides you with the lists of client’s Trades, Statuses, and Priorities.
6. You review this data and update your mapping tables if required.

To test the integration, ask your client or ServiceChannel to update the client’s WO to check if your endpoint will receive the right XML messages.

Setting up production endpoint

When you finish testing and debugging your first endpoint, set up a production endpoint and provide it to ServiceChannel. In general, you can use the same endpoint for both Sandbox and Production environments, but we suggest to set up a separate instance for the production as this will help you with any debugging or update activities in the future.

Going live

If your tests in the Sandbox environment are successful, it is time to go live:

- Send a message to ServiceChannel asking to enable your endpoint in the Production environment. Do not forget to specify your endpoint URL.
- After that, you will start receiving XML notifications for real-live WOs.
- To send XML messages to the Production environment, just change **<https://sb2aspnet.servicechannel.com/>** to **<https://aspnet.servicechannel.com/>**.

DATA MODEL

This XML data type definition file describes variables used in the XML integration. Some fields have set values and will be provided to you. You can also request your client's locations, trades, categories, and priorities.

XML Schema Definition

```
<?xml version="1.0" encoding="utf-16"?>
<xs:schema elementFormDefault="qualified" xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="DATA2SC" nillable="true" type="XmlRequest" />
  <xs:complexType name="XmlRequest">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="CALL" type="XmlRequestCallNode" />
    </xs:sequence>
    <xs:attribute name="PIN" type="xs:int" use="required" />
    <xs:attribute name="ID" type="xs:string" use="required" />
  </xs:complexType>
  <xs:complexType name="XmlRequestCallNode">
    <xs:sequence>
      <xs:element minOccurs="0" maxOccurs="1" name="PROBLEM" type="XmlRequestProblemNode" />
      <xs:element minOccurs="0" maxOccurs="1" name="ATTR" type="XmlRequestAttrNode" />
      <xs:element minOccurs="0" maxOccurs="1" name="CHECK" type="XmlRequestCheckNode" />
      <xs:element minOccurs="0" maxOccurs="1" name="RESOL" type="XmlRequestResolNode" />
    </xs:sequence>
    <xs:attribute name="TYPE" type="xs:string" />
    <xs:attribute name="DATETIME" type="xs:string" />
    <xs:attribute name="OPERATOR" type="xs:string" />
    <xs:attribute name="CALLER" type="xs:string" />
    <xs:attribute name="CATEGORY" type="xs:string" />
    <xs:attribute name="SUB" type="xs:int" />
    <xs:attribute name="LOC" type="xs:string" />
    <xs:attribute name="TRADE" type="xs:string" />
    <xs:attribute name="PRO" type="xs:int" />
    <xs:attribute name="PRO_NAME" type="xs:string" />
    <xs:attribute name="TR_NUM" type="xs:int" />
    <xs:attribute name="WO_NUM" type="xs:string" />
    <xs:attribute name="PO_NUM" type="xs:string" />
    <xs:attribute name="STATUS" type="xs:string" />
    <xs:attribute name="PRIORITY" type="xs:string" />
    <xs:attribute name="EQP_ID" type="xs:string" />
    <xs:attribute name="PRICE" type="xs:string" />
    <xs:attribute name="TAX" type="xs:string" />
    <xs:attribute name="TAX2" type="xs:string" />
    <xs:attribute name="NTE" type="xs:string" />
    <xs:attribute name="SCHED_DATETIME" type="xs:string" />
    <xs:attribute name="COMPL_DATETIME" type="xs:string" />
    <xs:attribute name="EXPIRATION_DATETIME" type="xs:string" />
    <xs:attribute name="RECALL" type="xs:string" />
    <xs:attribute name="RECALL_TR_NUM" type="xs:string" />
    <xs:attribute name="PROBLEM_TYPE" type="xs:string" />
    <xs:attribute name="PROBLEM_CODE" type="xs:string" />
  </xs:complexType>
  <xs:complexType name="XmlRequestProblemNode">
    <xs:simpleContent>
      <xs:extension base="xs:string" />
    </xs:simpleContent>
  </xs:complexType>
  <xs:complexType name="XmlRequestAttrNode">
    <xs:simpleContent>
      <xs:extension base="xs:string">
        <xs:attribute name="NAME" type="xs:string" />
        <xs:attribute name="LINE" type="xs:string" />
        <xs:attribute name="DATETIME" type="xs:string" />
        <xs:attribute name="CREATED_BY" type="xs:string" />
        <xs:attribute name="NEW_SCHED_DATETIME" type="xs:string" />
        <xs:attribute name="SENT_TO" type="xs:string" />
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
</xs:schema>
```

```

        <xs:attribute name="MAIL_TO" type="xs:string" />
        <xs:attribute name="ACTION_REQUIRED" type="xs:string" />
    </xs:extension>
</xs:simpleContent>
</xs:complexType>
<xs:complexType name="XmlRequestCheckNode">
    <xs:sequence>
        <xs:element minOccurs="0" maxOccurs="1" name="RESOL" type="XmlRequestResolNode" />
    </xs:sequence>
    <xs:attribute name="TYPE" type="xs:string" />
    <xs:attribute name="PIN" type="xs:string" />
    <xs:attribute name="DATETIME" type="xs:string" />
    <xs:attribute name="ID" type="xs:string" />
    <xs:attribute name="OPT_DATETIME" type="xs:string" />
    <xs:attribute name="COMPL_DATE" type="xs:string" />
    <xs:attribute name="SCHED_DATETIME" type="xs:string" />
    <xs:attribute name="STATUS" type="xs:string" />
    <xs:attribute name="CALLERID" type="xs:string" />
    <xs:attribute name="TECHS_COUNT" type="xs:string" />
</xs:complexType>
<xs:complexType name="XmlRequestResolNode">
    <xs:simpleContent>
        <xs:extension base="xs:string" />
    </xs:simpleContent>
</xs:complexType>
</xs:schema>

```

WSDL file

Open [this link](#) to get the WSDL file. HTTP POST and postXML (or XmlResponse) are required.

FIELD DESCRIPTIONS

Field type formats

Field type	Format and note
Datetime	String in yyyy/mm/dd hh:mm:ss format. Should be in a location time zone.
Money	NNNNNNNNN.NN
String	All character are allowed, but some characters should be encoded in both incoming and outgoing XML. See List of XML and HTML character entity references for more information.

Credentials section

The following fields should be transferred as attributes of the <DATA2SC> tag:

XML field	Example	Explanation	Type	Size
PIN	125222	The provider user IVR PIN selected for XML integration	Integer	32 bit
ID	200100110	The unique transaction ID for XML message.	String	100 chars

Work order section

The following fields should be transferred as attributes of the <CALL> tag. The <CALL> tag is nested inside the <DATA2SC> tag.

XML field	Example	Explanation	Type	Size
TYPE	WONEW	The notification type. Outgoing XML only. Possible values: WONEW — notifications about WO creation WOUPDATE — notifications about WO update	String	10 chars
DATETIME	2018/02/27 13:53:40	The date and time when a WO was created.	Datetime	
OPERATOR	UserName	The username of the person who entered a WO.	String	100 chars
CALLER	UserName	The username of the person who requested a WO. Can be the same as OPERATOR.	String	100 chars
CATEGORY	Repair	The WO category.	String	50 chars
SUB	2000051259	The unique subscriber ID.	Integer	32 bit
LOC	A205	The location ID unique for specific customer.	String	50 chars

TRADE	Supplies	The WO trade.	String	100 chars
PRO	2000000096	The unique provider ID.	Integer	32 bit
PRO_NAME	Rotorooter	The provider company name.	String	50 chars
TR_NUM	15822798	The assigned unique tracking number used in the SC system. Cannot be modified.	Integer	32 bit
PO_NUM	10903975	The subscriber's purchase number that the subscriber may provide when creating a WO. If not provided, PO_NUM defaults to TR_NUM. Can be modified by client.	String	20 chars
WO_NUM	Job56784	The unique work order number in the provider's system. If not provided, WO_NUM defaults to TR_NUM. Can be modified by provider.	String	20 chars
STATUS	ON_SITE	The WO status.	String	50 chars
PRIORITY	Normal	The customer assigned priority.	String	50 chars
EQP_ID	39627	The equipment/asset tag ID when a WO is assigned to an asset. Outgoing XML only.	Alphanumeric	20 chars
PRICE	1250.00	The WO price. Incoming Create WO requests only.	Money	
TAX	24.50	The tax amount. Incoming Create WO requests only.	Money	
TAX2	3.41	The additional tax amount. Incoming Create WO requests only.	Money	
NTE	1277.91	Not to exceed amount — the maximum WO total cost.	Money	
CURRENCY	USD	The WO NTE currency. Incoming XML only.	String	10 chars
SCHED_DATETIME	2018/02/27 13:53:40	The scheduled service date and time.	Datetime	
COMPL_DATETIME	2018/02/27 13:53:40	The WO completion date and time. Should be no more than 72 hours before the current time and no more than 24 hours after the current time. Required when the WO status is changed to any of the COMPLETED statuses.	Datetime	
EXPIRATION_DATE TIME	2018/02/27 13:53:40	The WO expiration date (also known as Original ETA). Useful for WOs with the Maintenance category.	Datetime	
RECALL	1	Defines if a WO is a recall from another WO and is possibly under warranty.	1 char: 1/0	1 char
RECALL_TR_NUM	12345678	The original tracking number included for reference.	Integer	32 bit

PROBLEM_TYPE	Heating/Air conditioning	The problem type. If left empty in the Create a WO request , the field value is set to XML request .	String	20 chars
PROBLEM_CODE	Too cold	The problem code. Can be empty.	String	100 chars
<PROBLEM>	The store is too cold	The description of the problem.	String	4000 chars
<RESOL>	Adjusted a thermostat	The resolution text entered upon completion of the job.	String	8000 chars

Note section

The following fields should be transferred as attributes of the <ATTR> tag. The <ATTR> tag is nested inside the <CALL> tag.

XML field	Example	Explanation	Type	Size
NAME	NOTE	The WO attribute name that should always be set to NOTE .	String	20 chars
LINE ¹	2	The WO note number. Outgoing XML only.	Integer	32 bit
DATETIME	2017/07/30 17:53:40	The date and time when the note was created. Optional for incoming XML. If not provided, the server time is used.	Datetime	
CREATED_BY	UserName	The username of the person who created the note. Outgoing XML only.	String	100 chars
NEW_SCHEDULED_DATE TIME	2017/08/01 13:53:40	The new WO scheduled date in case of rescheduling. Outgoing XML only.	Datetime	
ACTION_REQUIRED	1	If set to 1 in the incoming XML, emails are sent to WO followers. This field is also included into the outgoing XML if the corresponding option is selected in the UI.	String	1 char
SENT_TO	user@store.com	The WO followers with one or several emails. Outgoing XML only.	String	500 char
MAIL_TO	user@store.com	The list of recipients with one or several emails. Emails should be separated with a comma or semicolon. Incoming XML only.	String	500 chars

¹ The LINE field of the <ATTR> tag is deprecated and may be incorrect. It is still included into outgoing XML messages for compatibility reasons. We recommend to use the DATETIME field to sort notes.

Check in/out section

Incoming XML. Check in/out data can be submitted to ServiceChannel via the <CHECK> tag. This information will be visible to your client and can be used as a substitute for the IVR/Mobile, but it is not the same as the IVR/Mobile data. CallerID is not recorded, so some clients may still ask you to use the IVR/Mobile in accordance with the SLA.

Outgoing XML. The IVR/Mobile data is entered via ServiceChannel. The IVR/Mobile data is contained in the same <CHECK> tag with a few additional attributes.

The following fields should be transferred as attributes of the <CHECK> tag. The <CHECK> tag is nested inside the <CALL> tag:

XML field	Example	Explanation	Type	Size
PIN	125222	The IVR PIN of the user who reported check in/out.	Integer	32 bit
ID	255	The ID used to keep track of the transactions. A pair of connected check-in and check-out transactions should have the same ID, while the next pair should have a different ID. Required for incoming XML.	String	100 chars
TYPE	IN	The transaction type. Possible values: IN — checking in OUT — checking out	String	3 chars
DATETIME	2018/02/27 20:15:00	The check in/out date and time.	Datetime	
COMPL_DATE	2018/02/27 20:15:00	The completion date and time. Should be no more than 72 hours before the current time and no more than 24 hours after the current time. Required when the WO status is changed to any of COMPLETED.	Datetime	
OPT_DATETIME	2018/02/27 20:15:00	The check in date and time if they were not provided in a separate check in message. For check out messages only.	Datetime	
CALLERID	266696687 GPS(41.718570000, -71.480020000)	The telephone number that was used for check in/out or GPS data when GPS Mobile app was used. Outgoing XML only.	String	100 chars
STATUS	PARTS_ON_ORDER	The WO status indicated during the checkout. Outgoing XML only.	String	100 chars
SCHED_DATETIME	2018/02/27 20:15:00	The new WO scheduled date and time indicated during the checkout. Outgoing XML only.	Datetime	
TECHS_COUNT	2	The number of technicians reported during check in/out via IVR system or GPS Mobile app. Outgoing XML only.	Integer	32 bit

AVAILABLE STATUSES

General notes

- Subscriber usually do not allow providers to update a WO status to COMPLETED or COMPLETED / CONFIRMED because these statuses are billable and in most cases should only be used by subscribers. Use the COMPLETED / PENDING CONFIRMATION status. The best idea is to ask your client which status you should use after all work is done.
- You can decline WOs only in the OPEN status.
- Earlier only a limited set of default WO statuses was supported in the XML integration. These statuses are listed in the first column of the table below. In February 2016 a more generic solution was implemented. Read further for details.

Mapping table for XML-specific statuses

The table below contains the list of most commonly used statuses for the XML integration. Under special circumstances, clients may use other specific statuses. Every status in the XML integration is mapped to the corresponding primary or primary+extended status in the SC system.

Note: The COMPLETED status can only be used if the client has agreed that you can complete WOs through XML. This should be specified in the Web integration client agreement.

XML integration status	ServiceChannel statuses		Explanation
	Primary	Extended	
OPEN	OPEN		A work order was generated but was not yet accepted by a service provider.
CANCELLED	COMPLETED		The work order was cancelled.
COMPLETE	COMPLETED		The job was completed.
DECLINED	OPEN	DECLINED	The WO was declined for some reason. The WO status is set to OPEN / DECLINED. The subscriber's action is required.
LOCATION_DECLINED	OPEN	DECLINED	The WO was declined for specific reason. The WO status is set to OPEN / DECLINED. The subscriber's action is required.
TIME_DECLINED			
TRADE_DECLINED			
DISPATCH_CONFIRMED	IN PROGRESS	DISPATCH CONFIRMED	The provider accepted the WO.
ON_HOLD	IN PROGRESS	ON HOLD	The WO is under the special processing and should not be updated by the provider. Only subscribers can use this status.
INCOMPLETE	IN PROGRESS	INCOMPLETE	The provider checked out, but the work is not done as a follow-up visit is required.

PARTS_ON_ORDER	IN PROGRESS	PARTS ON ORDER	The provider checked out, but the work is not done as additional parts are required.
WAITING_FOR_QUOTE	IN PROGRESS	WAITING FOR QUOTE	The provider checked out, but waiting for quote.
WAITING_FOR_APPROVAL	IN PROGRESS	WAITING FOR APPROVAL	The provider has submitted a proposal and is waiting for the subscriber's approval.
PROPOSAL_APPROVED	IN PROGRESS	PROPOSAL APPROVED	The subscriber approved a proposal. Outgoing XML only.
ON_SITE	IN PROGRESS	ON SITE	The provider is at the subscriber's location. This status is usually used when checking in.
COMPLETED_NO_CHARGE	COMPLETED	NO CHARGE	The work has been completed at no charge.
COMPLETED_PENDING	COMPLETED	PENDING CONFIRMATION	The provider has completed the work and is waiting for the subscriber's approval and feedback.
COMPLETED_CONFIRMED	COMPLETED	CONFIRMED	The subscriber confirmed that the job was completed satisfactory.
COMPLETED	COMPLETED		The job was completed.

Support for all ServiceChannel statuses

In February 2016 support for all SC statuses, including subscriber-specific, was implemented in the XML integration. For compatibility reasons, the same STATUS field is used, but the field value can be complex, combining the main and extended statuses.

This is how the XML integration handles all statuses without losing compatibility with the previous implementations.

Integration option	Procedures	Examples
Incoming XML	<ul style="list-style-type: none"> - If provided, take the STATUS field value. - Try to perform the mapping procedure according to the table in the previous subsection. - If the STATUS value is not recognized as XML-specific and no mapping is possible, parse this value as <PrimaryStatus>+<ExtendedStatus> (plus sign as a delimiter). 	Status IN PROGRESS / PARTS ON ORDER can be sent as PARTS_ON_ORDER or IN PROGRESS+PARTS ON ORDER
Outgoing XML	<ul style="list-style-type: none"> - Take the WO status (primary and extended). - Try to perform the mapping procedure. - If the status is not recognized as XML-specific and no mapping is possible, create a value <PrimaryStatus>+<ExtendedStatus> (plus sign as a delimiter). - Send the value in the STATUS field. 	Status IN PROGRESS / PARTS ON ORDER is sent as PARTS_ON_ORDER (mapping is possible). Status IN PROGRESS / MATERIALS SHIPPED is sent as IN PROGRESS+MATERIALS SHIPPED (subscriber-specific status).

OUTGOING (SERVICECHANNEL TO PROVIDER) XML MESSAGE SAMPLES

Message encoding

The XML data is transferred as a string in escaped representation. See [Uri.EscapeDataString Method](#) for more details.

For testing purposes, you can use [Coder's Toolbox —String Conversion](#) to manually encode or decode data.

HTTP GET method

Content-Type: text/xml

The XML data is transferred as a URL parameter in escaped representation.

Example below shows encoding for the XML message that SC sends to a provider's endpoint defined as `http://testurl.com/wonew?xmlMsg=`:

```
<?xml version="1.0" encoding="utf-16"?>
<DATA2SC PIN="0" ID="63772325">
  <CALL TYPE="WONEW" DATETIME="2017/10/06 00:00:00" OPERATOR="PM XML Interface" CALLER="Service
Requestor" CATEGORY="MAINTENANCE" SUB="2000001305" LOC="2310" TRADE="FLOOR MAINTENANCE-WOOD"
PRO="2000000109" PRO_NAME="ABC COMPANY" TR_NUM="63772325" WO_NUM="test-1710991561"
PO_NUM="63772325" STATUS="OPEN" PRIORITY="P7 (Routine & PM)" NTE="325" PROBLEM_TYPE=""
PROBLEM_CODE="">
  <PROBLEM>test problem</PROBLEM>
</CALL>
</DATA2SC>
```

Note: For a GET method, ServiceChannel just appends an encoded XML message to the URL string, so the parameter name is not hardcoded, but should be provided as part of the endpoint URL like “?xmlMsg=” in the example above.

HTTP GET raw representation:

```
GET
http://testurl.com/wonew?xmlMsg=%3C%3Fxml%20version%3D%221.0%22%20encoding%3D%22utf-16%22%3F%3E%0
D%0A%3CDATA2SC%20PIN%3D%220%22%20ID%3D%2263772325%22%3E%0D%0A%20%20%3CCALL%20TYPE%3D%22WONEW%22%2
0DATETIME%3D%222015%2F10%2F06%2000%3A00%3A00%22%20OPERATOR%3D%22PM%20XML%20Interface%22%20CALLER%
3D%22Service%20Requestor%22%20CATEGORY%3D%22MAINTENANCE%22%20SUB%3D%222000001305%22%20LOC%3D%2223
10%22%20TRADE%3D%22FLOOR%20MAINTENANCE-WOOD%22%20PRO%3D%222000000109%22%20PRO_NAME%3D%22ABC%20COM
PANY%22%20TR_NUM%3D%2263772325%22%20WO_NUM%3D%22test-1710991561%22%20PO_NUM%3D%2263772325%22%20ST
ATUS%3D%22OPEN%22%20PRIORITY%3D%22P7%20%28Routine%20%26amp%3B%20PM%29%22%20NTE%3D%22325%22%20PROB
LEM_TYPE%3D%22%22%20PROBLEM_CODE%3D%22%22%3E%20%0D%0A%20%20%20%20%3C%2FPROBLEM%3Etest%20problem%3C%2
FPROBLEM%3E%0D%0A%20%20%3C%2FCALL%3E%0D%0A%3C%2FDATA2SC%3E
HTTP/1.1
Content-Type: text/xml
Accept: */*
Host: testurl.com
```


New Work Order

Here is a typical outgoing XML message generated when a new WO is created:

```
<?xml version="1.0" encoding="utf-16"?>
<DATA2SC PIN="1069693" ID="67099954">
  <CALL TYPE="WONEW"
    DATETIME="2018/02/27 07:48:00"
    OPERATOR="SoWerxXML1"
    CALLER="test-xml"
    CATEGORY="CAPITAL - OTHER"
    SUB="2014917018"
    LOC="0204"
    TRADE="BUILDING EXTERIOR"
    PRO="2000074085" PRO_NAME="SoWerx Contractor Services"
    TR_NUM="67099954" WO_NUM="67099954" PO_NUM="67099954"
    STATUS="OPEN"
    PRIORITY="Sev 3"
    NTE="500"
    SCHED_DATETIME="2018/01/28 07:48:00"
    EXPIRATION_DATETIME="2018/01/28 07:48:00"
    PROBLEM_TYPE="" PROBLEM_CODE="">
    <PROBLEM>sample work order</PROBLEM>
  </CALL>
</DATA2SC>
```

Note: Sometimes a note saying "Service Request has been dispatched" can be generated when a new WO is created.

Note: Due to asynchronous multithreaded delivery for the outgoing XML, you can receive a WOUPDATE message before the original WONEW message.

New Work Order — status other than OPEN

Outgoing XML messages are generated in the production environment each 2 minutes. In test environments, this interval can be larger. In some cases, a WO can be updated immediately after it was created, but before the initial XML message was sent out. This can result in a WONEW message containing a status other than OPEN. Moreover, clients can generate WOs with different statuses using the PM module or templates.

In the example below, a WO was created for invoicing purposes only, so the subscriber immediately set its status to COMPLETED. As a result, a WONEW message was sent with the COMPLETED status.

```
<?xml version="1.0"?>
<DATA2SC PIN="12345" ID="66239294">
  <CALL TYPE="WONEW"
    DATETIME="2017/12/23 15:43:00"
    OPERATOR="Susan"
    CALLER="chris"
    CATEGORY="REPAIR"
    SUB="2014917018"
    LOC="0204"
    TRADE="DISH MACHINE"
    PRO="2000074085" PRO_NAME="SoWerx Contractor Services"
    TR_NUM="66239294" WO_NUM="66239294" PO_NUM="66239294"
    STATUS="COMPLETED"
    PRIORITY="Normal 72 hours"
    NTE="165"
    SCHED_DATETIME="2017/12/28 15:43:00"
    COMPL_DATETIME="2017/12/23 15:46:00"
    EXPIRATION_DATETIME="2017/12/23 15:46:00"
    PROBLEM_TYPE="" PROBLEM_CODE="">
    <PROBLEM>
      For Invoice only wo to Invoice costs incurred by Hobart on 65943342
      which was reassigned to another provider after the initial visit.
    </PROBLEM>
  </CALL>
</DATA2SC>
```

New Work Order — with Asset

Clients can create work orders with an attached asset via Dashboard. In this case, the outgoing XML messages contain PROBLEM_TYPE, PROBLEM_CODE, and EQP_ID fields with the corresponding values:

```
<?xml version="1.0"?>
<DATA2SC PIN="12345" ID="66239294">
  <CALL TYPE="WONEW"
    DATETIME="2017/12/23 15:43:00"
    OPERATOR="Susan"
    CALLER="chris"
    CATEGORY="REPAIR"
    SUB="2014917018"
    LOC="0204"
    TRADE="DISH MACHINE"
    PRO="2000074085" PRO_NAME="SoWerx Contractor Services"
    TR_NUM="66239294" WO_NUM="66239294" PO_NUM="66239294"
    STATUS="COMPLETED"
    PRIORITY="Normal 72 hours"
    EQP_ID="2789-GM-3-OHD"
    NTE="165"
    SCHED_DATETIME="2017/12/28 15:43:00"
    COMPL_DATETIME="2017/12/23 15:46:00"
    EXPIRATION_DATETIME="2017/12/23 15:46:00"
    PROBLEM_TYPE="MAINTENANCE"
    PROBLEM_CODE="POWER WASHING">
    <PROBLEM>
      Sample work order
    </PROBLEM>
  </CALL>
</DATA2SC>
```

New Work Order — reassigned

Sometimes a WO can be originally assigned to one provider and later be reassigned to another one. In this case, the initially assigned provider receives a WOUPDATE notification where the [WO status is CANCELLED](#), while the newly assigned provider gets the WONEW message where STATUS is set to OPEN.

```
<?xml version="1.0" encoding="utf-16"?>
<DATA2SC PIN="609988" ID="67049933">
  <CALL TYPE="WONEW"
    DATETIME="2017/01/20 10:12:00"
    OPERATOR="KostyaS-XML"
    CALLER="test-xml"
    CATEGORY="CAPITAL - OTHER"
    SUB="2014917018"
    LOC="0204" TRADE="BUILDING EXTERIOR"
    PRO="2000057450" PRO_NAME="Boo Inc"
    TR_NUM="67049933" WO_NUM="67049933" PO_NUM="67049933"
    STATUS="OPEN"
    PRIORITY="Sev 3"
    NTE="50000"
    SCHED_DATETIME="2017/01/27 10:16:00"
    EXPIRATION_DATETIME="2017/01/27 10:16:00"
    PROBLEM_TYPE="" PROBLEM_CODE="">
    <PROBLEM>Reassign test</PROBLEM>
  </CALL>
</DATA2SC>
```

After that a WOUPDATE message with the reassign description is sent:

```
<?xml version="1.0" encoding="utf-16"?>
<DATA2SC PIN="609988" ID="253935679">
  <CALL TYPE="WOUPDATE"
    DATETIME="2017/01/20 10:12:00"
    OPERATOR="test-xml"
    CALLER="test-xml"
    CATEGORY="CAPITAL - OTHER"
    SUB="2014917018"
    LOC="0204"
    TRADE="BUILDING EXTERIOR"
    PRO="2000057450" PRO_NAME="Boo Inc"
    TR_NUM="67049933" WO_NUM="67049933" PO_NUM="67049933"
    STATUS="OPEN"
    PRIORITY="Sev 3"
    NTE="50000"
    SCHED_DATETIME="2017/01/27 10:16:00"
    EXPIRATION_DATETIME="2017/01/27 10:16:00"
    PROBLEM_TYPE="" PROBLEM_CODE="">
    <PROBLEM>Reassign test</PROBLEM>
    <ATTR NAME="NOTE" LINE="2"
      DATETIME="2017/01/20 10:17:00"
      CREATED_BY="SoWerx-XML"
      NEW_SCHED_DATETIME="2017/01/27 10:16:00">
      Provider reassigned from SoWerx Contractor Services to Boo Inc.
      The Reason: Other. Service Request has been dispatched to Boo
      Inc via Cancellation has been sent to SoWerx Contractor
      Services
    </ATTR>
  </CALL>
</DATA2SC>
```

WO Update

General notes

- Each time SC sends a notification about a WO update, the XML message contains all fields, not only the updated fields. This is helpful when some previous messages on this WO were not received or properly processed.
- SC does not send notifications to providers if changes were made by providers themselves via an incoming XML request.
- The LINE field of the <ATTR> tag is deprecated and can be incorrect. It is still included into outgoing XML messages for compatibility reasons, but the value can be incorrect. Use DATETIME field to sort notes.

WO Update — Note

```
<?xml version="1.0" encoding="utf-16"?>
<DATA2SC PIN="1069693" ID="254284762">
  <CALL TYPE="WOUPDATE"
    DATETIME="2017/01/22 08:16:00"
    OPERATOR="test-xml"
    CALLER="test-xml"
    CATEGORY="CAPITAL - OTHER"
    SUB="2014917018"
    LOC="0204"
    TRADE="BUILDING EXTERIOR"
    PRO="2000074085" PRO_NAME="Boo Inc"
    TR_NUM="67133896" WO_NUM="67133896" PO_NUM="67133896" STATUS="INCOMPLETE"
    PRIORITY="Sev 2"
    NTE="500"
    SCHED_DATETIME="2017/01/29 08:00:00"
    EXPIRATION_DATETIME="2017/01/29 08:00:00"
    PROBLEM_TYPE="" PROBLEM_CODE="">
    <PROBLEM>Test WO description updated</PROBLEM>
    <ATTR NAME="NOTE"
      LINE="4"
      DATETIME="2017/01/22 10:42:00"
      CREATED_BY="SoWerxXML1"
      SENT_TO="">
      Please call location manager 555-LOCATION to discuss this issue
    </ATTR>
  </CALL>
</DATA2SC>
```

Additional fields can be included when the **Action Required** option is selected while adding a note in the UI:

```
<ATTR NAME="NOTE"
  LINE="11"
  DATETIME="2017/09/28 09:33:00"
  CREATED_BY="SoWerxXML1"
  NEW_SCHED_DATETIME="2017/09/26 12:29:00"
  SENT_TO="ServiceRequest@SoWerx.com"
  ACTION_REQUIRED="1">
  When is this scheduled?
</ATTR>
```


WO Update — Status, Schedule Date, and NTE

When several WO fields are edited at a time, all changes are sent out in a single outgoing XML message.

```
<?xml version="1.0" encoding="utf-16"?>
<DATA2SC PIN="1069693" ID="254284764">
  <CALL TYPE="WOUPDATE"
    DATETIME="2017/01/22 08:16:00"
    OPERATOR="test-xml" CALLER="test-xml"
    CATEGORY="CAPITAL - OTHER"
    SUB="2014917018" LOC="0204"
    TRADE="BUILDING EXTERIOR"
    PRO="2000074085" PRO_NAME="Boo Inc"
    TR_NUM="67133896" WO_NUM="67133896" PO_NUM="67133896"
    STATUS="INCOMPLETE"
    PRIORITY="Sev 2"
    NTE="400"
    SCHED_DATETIME="2017/01/30 08:00:00"
    EXPIRATION_DATETIME="2017/01/30 08:00:00"
    PROBLEM_TYPE="" PROBLEM_CODE="">
  <PROBLEM>Test WO description updated</PROBLEM>
  <ATTR NAME="NOTE"
    LINE="5"
    DATETIME="2017/01/22 12:21:00"
    CREATED_BY="SoWerXML1"
    NEW_SCHED_DATETIME="2017/01/30 08:00:00"
    SENT_TO="">
    WO Edited: status changed from IN PROGRESS/PARTS ON ORDER to IN
    PROGRESS/INCOMPLETE.
    WO Edited: Scheduled Date changed from Jan 29, 2016 08:00 to
    Jan 30, 2016 08:00.
    WO Edited: NTE changed from 500 to (USD)400.
  </ATTR>
</CALL>
</DATA2SC>
```

WO Update — reassigned

When a WO is reassigned to another provider, a message with STATUS=CANCELLED is sent to the initially assigned provider:

```
<?xml version="1.0"?>
<DATA2SC PIN="1234" ID="56164882">
  <CALL TYPE="WOUPDATE"
    DATETIME="2017/09/27 17:14:57"
    OPERATOR="op67"
    CALLER="John Doe / Assistant Manager"
    CATEGORY="REPAIR"
    SUB="2014917018"
    LOC="77"
    TRADE="HVAC"
    PRO="2000888000" PRO_NAME="TEST PROVIDER"
    TR_NUM="63525336" WO_NUM="63525336" PO_NUM="63525336"
    STATUS="CANCELLED"
    PRIORITY="Normal"
    NTE="750"
    PROBLEM_TYPE="" PROBLEM_CODE="">
  <PROBLEM>unit #12 in comm loss</PROBLEM>
  <ATTR NAME="NOTE"
    LINE="1"
    DATETIME="2017/09/27 18:39:08"
    CREATED_BY="ServiceChannel">This Work Order has been Cancelled
  </ATTR>
</CALL>
</DATA2SC>
```

Note: In some cases, the same WO can be reassigned back to the initially assigned provider.

WO Update — Check In

Note: SC sends out a notification when check in/out is performed via phone (IVR) or GPS application, but not if check in/out is performed by a provider via the XML request.

When IVR is used, the CALLERID field contains a phone number.

```
<?xml version="1.0"?>
<DATA2SC PIN="6650" ID="56164882">
  <CALL TYPE="WOUPDATE"
    DATETIME="2017/07/01 00:00:00"
    OPERATOR="Auto-generated work order"
    CALLER="Auto-generated work order"
    CATEGORY="CONTRACT - HO/HO"
    SUB="2000051259"
    LOC="1086"
    TRADE="DOCK EQUIPMENT"
    PRO="2000057450" PRO_NAME="Boo Inc"
    TR_NUM="59664065" WO_NUM="59664065" PO_NUM="59664065"
    STATUS="ON_SITE"
    PRIORITY="Prev. Maint. (7 Days)"
    NTE="1000"
    SCHED_DATETIME="2017/09/13 23:59:59"
    EXPIRATION_DATETIME="2017/09/13 23:59:59"
    COMPL_DATETIME="2017/07/30 13:54:16"
    PROBLEM_TYPE="" PROBLEM_CODE="">
    <PROBLEM>Quarterly Dock PM Service - Jan, Apr, Jul - Quarterly Dock PM Service
    - Jan, Apr, Jul - Service Window:07/01/2015 - 09/13/2015</PROBLEM>
    <CHECK TYPE="IN"
      PIN="6650"
      DATETIME="2017/07/30 13:54:16"
      CALLERID="266696687" />
  </CALL>
</DATA2SC>
```

If GPS Mobile app is used to report check in, the CALLERID field contains GPS data:

```
<CHECK TYPE="IN"
  PIN="6650"
  DATETIME="2017/07/30 13:54:16"
  CALLERID="GPS(41.718570000, -71.480020000)" />
```

WO Update — Check Out

In check-out messages, the number of techs is also specified in the TECHS_COUNT field.

```
<?xml version="1.0"?>
<DATA2SC PIN="65650" ID="56169811">
  <CALL TYPE="WOUPDATE"
    DATETIME="2017/07/01 00:00:00"
    OPERATOR="Auto-generated work order"
    CALLER="Auto-generated work order"
    CATEGORY="CONTRACT - HO/HO"
    SUB="2000051259"
    LOC="1086"
    TRADE="DOCK EQUIPMENT"
    PRO="2000057450" PRO_NAME="Boo Inc"
    TR_NUM="59664065" WO_NUM="59664065" PO_NUM="59664065"
    STATUS="COMPLETED_PENDING"
    PRIORITY="Prev. Maint. (7 Days)"
    NTE="1000"
    SCHED_DATETIME="2017/09/13 23:59:59"
    EXPIRATION_DATETIME="2017/09/13 23:59:59"
    COMPL_DATETIME="2017/07/30 15:01:43"
    PROBLEM_TYPE="" PROBLEM_CODE="">
    <PROBLEM>Quarterly Dock PM Service - Jan, Apr, Jul - Quarterly Dock PM Service
  - Jan, Apr, Jul - Service Window:07/01/2015 - 09/13/2015</PROBLEM>
    <CHECK TYPE="OUT"
      PIN="65650"
      DATETIME="2017/07/30 15:01:43"
      SCHED_DATETIME="2017/09/13 23:59:59"
      STATUS="COMPLETED_PENDING"
      TECHS_COUNT="2"
      CALLERID="266696687" />
  </CALL>
</DATA2SC>
```

INCOMING (PROVIDER TO SERVICECHANNEL) XML MESSAGE SAMPLES

ServiceChannel endpoints

SB2 (test): <https://sb2aspnet.servicechannel.com/xmlWS/service.asmx/postXML>

Production: <https://aspnet.servicechannel.com/xmlWS/service.asmx/postXML>

HTTP GET method

https://sb2aspnet.servicechannel.com/xmlWS/service.asmx/postXML?StoreID=string_store_ID&CustomerID=string_customer_ID&XMLMsg=string_xml_request

HTTP POST method

<https://sb2aspnet.servicechannel.com/xmlWS/service.asmx/postXML>

Content-Type: application/x-www-form-urlencoded

Content-Length: length

StoreID=*string_store_ID*&CustomerID=*string_customer_ID*&XMLMsg=*string_xml_request*

- **string_store_ID** — StoreID value
- **string_customer_ID** — CustomerID value
- **string_xml_request** — the URL-encoded representation of an XML message with a request

Raw POST message example:

```
POST https://sb2aspnet.servicechannel.com/xmlWS/service.asmx/XmlResponse HTTP/1.1
User-Agent: Fiddler
Host: sb2aspnet.servicechannel.com
Content-Type: application/x-www-form-urlencoded
Content-Length: 336

StoreID=XXXaa715&CustomerID=xmlyyyaa75&XMLMsg=%3C%3Fxml%20version%3D%221.0%22%3F%3E%3CDATA2SC%20PIN%3D%2210077706%22%20ID%3D%222000071940%22%3E%3CCALL%20DATETIME%3D%222015/09/30%2009%3A41%3A01%22%20OPERATOR%3D%22Site%20Dispatcher%22%20CALLER%3D%22Site%20Alerts%20Interface%22%20CATEGORY%3D%22HVAC%20REPAIR%22%20SUB%3D%222014917018%22%20LOC%3D%22SomeLocation%22%20TRADE%3D%22ELECTRIC%22%20STATUS%3D%22OPEN%22%20PRIORITY%3D%22Sev%201%22%20CURRENCY%3D%22USD%22%20%3E%3CPROBLEM%3EREFRIGERATIONOVERLOAD%3C/PROBLEM%3E%3C/CDATA2SC%3E
```

General notes

Our system accepts TR_NUM, WO_NUM, or PO_NUM to update a WO.

When you include all fields in your request, the SC system updates only fields that have been changed.

When a WO number specified in the request to update a WO is not found, this request is processed as a request to create a new WO in case the WO creation is allowed by the client.

The following elements are required to create a work order and should not be empty: PIN, SUB, PRIORITY, LOC, CATEGORY, TRADE, DATETIME, CALLER, OPERATOR, PROBLEM, CURRENCY.

When a WO is in one of the COMPLETED statuses, the request to update a WO is rejected with the "No changes allowed" error.

Note: You can test samples from this section in the dedicated Test Web Service described in the [Getting started](#) subsection. Test Web Service accepts one-line XML strings without whitespaces. To simplify testing procedure, we provide all samples in 2 versions: a well-formatted human-readable sample and a single-line string that is ready to be copy-pasted to Test Web Service.

Create WO requests

Note: ServiceChannel ignores the STATUS field value in the XML message when you create a WO. The OPEN status is automatically assigned. If you want to set status other than OPEN, send another message to update the WO status.

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="942842206">
  <CALL DATETIME="2017/08/18 11:03:39"
    OPERATOR="BulkPMDispatcher"
    CALLER="PM XML Interface"
    CATEGORY="Maintenance"
    SUB="2000001305"
    LOC="2310"
    TRADE="FLOOR MAINTENANCE-WOOD"
    WO_NUM="12942842"
    PO_NUM="12942842"
    STATUS="OPEN"
    PRIORITY="NORMAL"
    CURRENCY="USD">
    <PROBLEM>Test</PROBLEM>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="942842206"><CALL DATETIME="2017/08/18 11:03:39"
OPERATOR="BulkPMDispatcher" CALLER="PM XML Interface" CATEGORY="Maintenance" SUB="2000001305"
LOC="2310" TRADE="FLOOR MAINTENANCE-WOOD" WO_NUM="12942842" PO_NUM="12942842" STATUS="OPEN"
PRIORITY="P7 (Routine & PM)" CURRENCY="USD"><PROBLEM>Test</PROBLEM></CALL></DATA2SC>
```

The response to the successful request is an XML string value that is TR_NUM assigned by SC to a new work order.

Raw reply example:

```
<?xml version="1.0" encoding="utf-8"?><string
xmlns="http://aspnet.servicechannel.com/xmlws/service.asmx">&lt;?xml version="1.0"
encoding="utf-8"?&gt;&lt;string&gt;63513485&lt;/string&gt;</string>
```

Extracted and decoded reply example:

```
<?xml version="1.0" encoding="utf-8"?><string>63513485</string>
```

Create WO request with non-zero NTE

To set a non-zero NTE value for a new WO, add the PRICE, TAX, and TAX2 fields. The sum of the values specified in these fields should equal the NTE value.

Note: You need a separate XML permission to create a WO with non-zero NTE.

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="942842206">
  <CALL DATETIME="2017/08/18 11:03:39"
    OPERATOR="SuperOperator"
    CALLER="PM XML Interface"
    CATEGORY="Maintenance"
    SUB="2000001305"
    LOC="2310"
    TRADE="FLOOR MAINTENANCE-WOOD"
    WO_NUM="12942842"
    PO_NUM="12942842"
    PRICE="1200"
    TAX="50"
    TAX2="20"
    NTE="1270"
    STATUS="OPEN"
    PRIORITY="NORMAL"
    CURRENCY="USD">
    <PROBLEM>Test</PROBLEM>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="942842206"><CALL DATETIME="2017/08/18 11:03:39"
OPERATOR="SuperOperator" CALLER="PM XML Interface" CATEGORY="Maintenance" SUB="2000001305"
LOC="2310" TRADE="FLOOR MAINTENANCE-WOOD" WO_NUM="12942842" PO_NUM="12942842" PRICE="1200" TAX="50"
TAX2="20" NTE="1270" STATUS="OPEN" PRIORITY="NORMAL" CURRENCY="USD"><PROBLEM>Test
WO</PROBLEM></CALL></DATA2SC>
```

Create WO request with defined Expiration Time

Use the EXPIRATION_DATETIME field to set the defined Expiration Time.

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="942842206">
  <CALL DATETIME="2017/11/04 12:03:39"
    OPERATOR="SuperOperator" CALLER="PM XML Interface"
    CATEGORY="Maintenance"
    SUB="2000001305"
    LOC="2310"
    TRADE="FLOOR MAINTENANCE-WOOD"
    WO_NUM="12942842" PO_NUM="12942842"
    STATUS="OPEN"
    PRIORITY="NORMAL"
    CURRENCY="USD"
    EXPIRATION_DATETIME="2017/11/05 12:03:39">
    <PROBLEM>Test</PROBLEM>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="942842206"><CALL DATETIME="2017/11/04 12:03:39"
OPERATOR="SuperOperator" CALLER="PM XML Interface" CATEGORY="Maintenance" SUB="2000001305"
LOC="2310" TRADE="FLOOR MAINTENANCE-WOOD" WO_NUM="12942842" PO_NUM="12942842" STATUS="OPEN"
PRIORITY="NORMAL" CURRENCY="USD" EXPIRATION_DATETIME="2017/11/05
12:03:39"><PROBLEM>Test</PROBLEM></CALL></DATA2SC>
```

Create WO request with Problem Type and Problem code

Add the PROBLEM_TYPE and PROBLEM_CODE fields to set defined Problem Type and Problem code.

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="942842206">
  <CALL DATETIME="2017/11/04 12:03:39"
    OPERATOR="SuperOperator" CALLER="PM XML Interface"
    CATEGORY="Maintenance"
    SUB="2000001305"
    LOC="2310"
    TRADE="FLOOR MAINTENANCE-WOOD"
    WO_NUM="12942842" PO_NUM="12942842"
    STATUS="OPEN"
    PRIORITY="NORMAL"
    CURRENCY="USD"
    EXPIRATION_DATETIME="2017/11/05 12:03:39"
    PROBLEM_TYPE="MAINTENANCE"
    PROBLEM_CODE="POWER WASHING">
    <PROBLEM>Test</PROBLEM>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="942842206"><CALL DATETIME="2017/11/04 12:03:39"
OPERATOR="SuperOperator" CALLER="PM XML Interface" CATEGORY="Maintenance" SUB="2000001305"
LOC="2310" TRADE="FLOOR MAINTENANCE-WOOD" WO_NUM="12942842" PO_NUM="12942842" STATUS="OPEN"
PRIORITY="NORMAL" CURRENCY="USD" EXPIRATION_DATETIME="2017/11/05 12:03:39"
PROBLEM_TYPE="MAINTENANCE" PROBLEM_CODE="POWER WASHING"><PROBLEM>Test</PROBLEM></CALL></DATA2SC>
```

Update WO requests

To update a WO, use the TR_NUM, WO_NUM, or PO_NUM fields or any combination of these fields.

Update WO_NUM using TR_NUM

When TR_NUM and WO_NUM are both included in the request to update a WO, they should refer to the same WO. When WO_NUM does not match TR_NUM, the request is treated as if you wanted to change WO_NUM.

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="34112">
  <CALL WO_NUM="222111444"
    TR_NUM="62041581">
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="test1942842206"><CALL WO_NUM="222111444"
TR_NUM="62041581"></CALL></DATA2SC>
```

Update Status

Update Status using TR_NUM

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="1942842206">
  <CALL TR_NUM="62041581"
    STATUS="DISPATCH_CONFIRMED">
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="test1942842206"><CALL TR_NUM="62041581"
STATUS="DISPATCH_CONFIRMED"></CALL></DATA2SC>
```

Update Status using WO_NUM

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="1942842206">
  <CALL WO_NUM="222111444"
    STATUS="INCOMPLETE">
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="test1942842206"><CALL WO_NUM="222111444"
STATUS="INCOMPLETE"></CALL></DATA2SC>
```

Update Status to COMPLETED_PENDING (COMPL_DATETIME required)

```
<?xml version="1.0"?>
<DATA2SC PIN="99999" ID="133">
  <CALL TR_NUM="164851"
    COMPL_DATETIME="2017/01/05 19:04:23"
    STATUS="COMPLETED_PENDING">
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="99999" ID="133"><CALL TR_NUM="164851" COMPL_DATETIME="2017/01/05
19:04:23" STATUS="COMPLETED"></CALL></DATA2SC>
```

Update Status with Resolution

```
<?xml version="1.0"?>
<DATA2SC PIN="2024" ID="13452">
  <CALL TR_NUM="164851"
    COMPL_DATETIME="2018/01/05 19:04:23"
    STATUS="COMPLETED_PENDING">
    <RESOL>What's up WITH resolution</RESOL>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="2024" ID="13452"><CALL TR_NUM="164851"
COMPL_DATETIME="2018/01/05 19:04:23" STATUS="COMPLETED_PENDING"><RESOL>What 's up WITH
resolution</RESOL></CALL></DATA2SC>
```

Change Scheduled Date

Note: The following rules are used for rescheduling:

- For maintenance WO, new scheduled date/time cannot be before call date/time, before reassign date/time, or after expiration date/time.
- For other categories, new scheduled date/time cannot be before call date/time or before reassign date/time.

```
<?xml version="1.0"?>
<DATA2SC PIN="2024" ID="13445">
  <CALL TR_NUM="59664065"
    SCHED_DATETIME="2018/02/05 11:00:00">
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="2024" ID="13445"><CALL TR_NUM="59664065"
SCHED_DATETIME="2018/02/05 11:00:00"></CALL></DATA2SC>
```


Add Note

Add simple Note

```
<?xml version="1.0"?>
<DATA2SC PIN="23440" ID="127">
  <CALL TR_NUM="59664065">
    <ATTR NAME="NOTE">We need verbal authorization to buy parts</ATTR>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="23440" ID="127"><CALL TR_NUM="59664065"><ATTR NAME="NOTE">We
need verbal authorization to buy parts</ATTR></CALL></DATA2SC>
```

Add Note with ACTION_REQUIRED — emails sent to WO followers

When ACTION_REQUIRED is set to **1**, a note is emailed to the WO followers list, which typically includes assigned provider's default contacts (as filed in Fixxbook settings) and emails mentioned by the subscriber in the previous note for this WO.

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="127">
  <CALL TR_NUM="54889692">
    <ATTR NAME="NOTE" ACTION_REQUIRED="1">Note from XML with emails</ATTR>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="127"><CALL TR_NUM="54889692"><ATTR NAME="NOTE"
ACTION_REQUIRED="1">Note from XML with emails</ATTR></CALL></DATA2SC>
```

Add Note with ACTION_REQUIRED and MAIL_TO — emails sent to specified recipients

Sometimes you may need to add specific email addresses to the WO followers list using the XML Integration. To do this, add the MAIL_TO field and include email addresses separated with a comma or semicolon.

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="127">
  <CALL TR_NUM="54889692">
    <ATTR NAME="NOTE"
      MAIL_TO="user@company.com;anotheruser@company.net">Note from XML with
      emails</ATTR>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="127"><CALL TR_NUM="54889692"><ATTR NAME="NOTE"
MAIL_TO="user@company.com;anotheruser@company.net">Note from XML with
emails</ATTR></CALL></DATA2SC>
```

Important notes:

- This feature is disabled by default, but if you want to enable it for some specific client, send an email to contractorsupport@servicechannel.com.
- Be careful with this feature and consult with your clients about the cases when you should use the MAIL_TO field. Otherwise, you can flood your clients with unwanted emails. If a client complains on this, a special permission allowing you to use the MAIL_TO field will be disabled immediately.
- You can use set the MAIL_TO field to \$STORE\$ (MAIL_TO="\$STORE\$"), and this value will be replaced with a location email address if a valid email is specified in the location settings.

- To avoid blocking for any further XML transactions, you will immediately get the “OK” reply to the above request, before email will be actually generated and sent out. Any errors during email delivery will be not indicated in the XML transactions.

Check In

Note: The ID field value in a pair of connected check in and check out messages should be the same. The next pair should use a different ID. When several technicians working simultaneously should be reported, check in/out messages with different ID values should be sent. See [Two Techs, Same WO](#) for code samples.

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="146889">
  <CALL TR_NUM="62041581"
    STATUS="ON_SITE">
    <CHECK TYPE="IN"
      ID="1"
      DATETIME="2017/08/18 12:10:00">
    </CHECK>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="146889"><CALL TR_NUM="62041581"
STATUS="ON_SITE"><CHECK TYPE="IN" ID="1" DATETIME="2017/08/18 12:10:00"></CHECK></CALL></DATA2SC>
```

Check Out

You can define the completion date and time either in the main <CALL> tag or the <CHECK> tag. When both values are provided, the value from the <CHECK> tag is used.

Note: The ID field value in a pair of connected check in and check out messages should be the same. The next pair should use a different ID.

Completion date/time in CHECK section

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="263633">
  <CALL TR_NUM="62041581"
    STATUS="COMPLETED_PENDING">
    <CHECK TYPE="OUT"
      ID="1"
      DATETIME="2017/08/18 12:20:00"
      COMPL_DATE="2017/08/18 12:10:00">
    </CHECK>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="263633"><CALL TR_NUM="62041581"
STATUS="COMPLETED_PENDING"><CHECK TYPE="OUT" PIN="40487" ID="1" DATETIME="2017/08/18 12:20:00"
COMPL_DATE="2017/08/18 12:10:00"></CHECK></CALL></DATA2SC>
```

Completion date/time in CALL section

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="146889">
  <CALL TR_NUM="62041753"
    STATUS="COMPLETED_PENDING"
    COMPL_DATETIME="2017/08/18 12:30:00">
    <CHECK TYPE="OUT"
      ID="273404"
      DATETIME="2017/08/18 12:20:00">
    </CHECK>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="146889"><CALL TR_NUM="62041753"
STATUS="COMPLETED_PENDING" COMPL_DATETIME="2017/08/18 12:30:00"><CHECK TYPE="OUT" ID="273404"
DATETIME="2017/08/18 12:20:00"></CHECK></CALL></DATA2SC>
```

Change Status to Incomplete

```
<?xml version="1.0"?>
<DATA2SC PIN="50407" ID="273403">
<CALL TR_NUM="19774232"
  STATUS="INCOMPLETE">
  <CHECK TYPE="OUT"
    ID="273404"
    DATETIME="2017/08/18 12:10:00">
  </CHECK>
</CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="50407" ID="273403"><CALL TR_NUM="19774232"
STATUS="INCOMPLETE"><CHECK TYPE="OUT" ID="273404" DATETIME="2017/08/18
12:10:00"></CHECK></CALL></DATA2SC>
```

Check In/Out with different PIN

By default, check in/out records are labeled with the name of the user linked to the XML integration. This PIN is set in the <DATA2SC> tag. You can specify another user by adding the user PIN to the <CHECK> tag.

Note: Use the same PIN and ID in the <CHECK> tag for two paired check-in and check-out messages.

```
<?xml version="1.0"?>
<DATA2SC PIN="40487" ID="146889">
  <CALL TR_NUM="62041581"
    STATUS="ON_SITE">
    <CHECK TYPE="IN"
      PIN="40400"
      ID="3"
      DATETIME="2017/08/18 12:10:00">
    </CHECK>
  </CALL>
</DATA2SC>
```

Web Service XMLMsg:

```
<?xml version="1.0"?><DATA2SC PIN="40487" ID="146889"><CALL TR_NUM="62041581"
STATUS="ON_SITE"><CHECK TYPE="IN" PIN="40400" ID="3" DATETIME="2017/08/18
12:10:00"></CHECK></CALL></DATA2SC>
```

Incoming XML responses

In reply to each incoming message, the SC system generates the following response:

HTTP/1.1 200 OK

Content-Type: text/xml; charset=utf-8

Content-Length: length

```
<?xml version="1.0" encoding="utf-8"?>  
<string xmlns="http://aspnet.servicechannel.com/xmlws/service.asmx">response_string_data</string>
```

response_string_data can contain a simple string or an encoded XML as described in the examples below.

Responses to create WO request

A well-processed request to create a WO generates the response with TR_NUM value assigned to the new WO.

Raw example:

```
<?xml version="1.0" encoding="utf-8"?><string  
xmlns="http://aspnet.servicechannel.com/xmlws/service.asmx">&lt;?xml version="1.0"  
encoding="utf-8"?&gt;&lt;string&gt;63513485&lt;/string&gt;</string>
```

Extracted and decoded example:

```
<?xml version="1.0" encoding="utf-8"?><string>63513485</string>
```

Responses to update WO request

A well-processed request to update a WO generates the response with the OK string inside:

Raw example:

```
<?xml version="1.0" encoding="utf-8"?><string  
xmlns="http://aspnet.servicechannel.com/xmlws/service.asmx">&lt;?xml version="1.0"  
encoding="utf-8"?&gt;&lt;string&gt;OK&lt;/string&gt;</string>
```

Extracted and decoded example:

```
<?xml version="1.0" encoding="utf-8"?><string>OK</string>
```

Note: All other replies should be considered as errors even if the response HTTP status code is 200. All errors are described in the next section.

ERROR HANDLING

Preprocessing error messages

The following responses are generated when an error is found during the incoming XML message preprocessing. In this case, the response is a simple string without any encodings:

- Bad credentials
- Invalid XML message
- Invalid XML; could not be parsed
- Unknown error
- Your web service credentials are invalid and do not match PIN in the transaction

Example:

```
<?xml version="1.0" encoding="utf-8"?><string  
xmlns="http://aspnet.servicechannel.com/xmlws/service.asmx">Bad credentials</string>
```

Processing error messages

The following responses are generated when an error is detected during the incoming XML message processing. You can receive the following response strings:

- Unknown error
- Wrong PIN
- Location not found
- Work order is premature or expired
- Category is incorrect
- Status does not belong to Subscriber
- Invalid currency
- Contract not found
- auto_invoice value outside of normal range (0 OR 1)
- auto_dispatch value outside of normal range (0 OR 1)
- callerid_match value outside of normal range (0 OR 1)
- auto_complete value outside of normal range (0 OR 1)
- Bad amounts, TAX and PRICE does not equal NTE
- Incorrect SCHED_DATETIME format
- Invalid WO number
- Incorrect COMPL_DATETIME format
- Subscriber not found
- No changes allowed
- Not enough permissions to update status
- Not enough permissions to update COMPLETED status
- Complete without COMPL_DATETIME
- No COMPL_DATETIME present or included for Completed/No Charge
- COMPL_DATETIME included for a non Completed/No Charge work order
- Invalid attempt to complete without COMPL_DATETIME
- Invalid COMPL_DATETIME (older than 72 hours or in the future)
- Current status COMPLETED
- Current status COMPLETED — cannot confirm dispatch
- There is nothing to update
- Tracking number has not been found
- Wrong status

- Can't find data for update
- Check in/out is premature
- Check in/out is expired
- Not enough permissions to update check In/Out
- Not enough permissions to set Resolution
- WO number already exists
- Not enough permissions to create wo
- PO number already exists
- PO number invalid
- Some mandatory fields are absent. (PIN - SUB - PRIORITY - LOC - CATEGORY - TRADE - DATETIME - CALLER - OPERATOR - PROBLEM)
- Trade not found
- Cannot decline WO because it is not in OPEN status
- Cannot update Work Order that is not assigned to your Provider ID
- Invalid DATETIME value
- Invalid SCHED_DATETIME value
- SCHED_DATETIME is greater than EXPIRATION_DATETIME
- Invalid CALL DATETIME
- You do not have XML permissions for this subscriber
- Workorder not found for update
- Permissions present but not active
- Check in/out time is older than {0} hours
- Check in/out time in future (more than 1 day) is not allowed
- Not enough permissions to use PENDING CONFIRMATION status
- Cannot set this status before Call Date
- You do not have XML permission to add note for this Subscriber
- You do not have XML permission to update Scheduled Date for this Subscriber
- Current status COMPLETED, cannot report check in/out
- Wrong PIN used for check in/out
- WO_NUM and PO_NUM length should not exceed 20 characters
- Missed required argument CATEGORY
- SCHED_DATETIME is less than reassign date/time
- SCHED_DATETIME is greater than EXPIRATION_DATETIME
- SCHED_DATETIME is less than CALL DATETIME

This string is sent as an encoded XML message embedded into the standard XML envelope as in the example below.

Raw example:

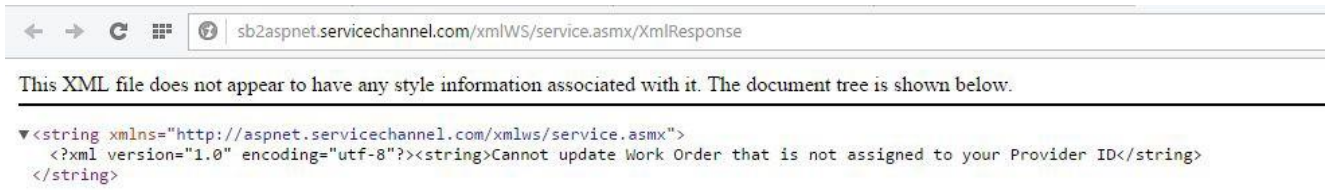
```
<?xml version="1.0" encoding="utf-8"?><string
xmlns="http://aspnet.servicechannel.com/xmlws/service.asmx">&lt;?xml version="1.0"
encoding="utf-8"?&gt;&lt;string&gt;Cannot update WO not assigned to your Provider
ID&lt;/string&gt;</string>
```

Extracted and decoded example:

```
<?xml version="1.0" encoding="utf-8"?><string>Cannot update WO not assigned to your Provider
ID</string>
```

Note: Before processing, this string should be decoded. Most frameworks automatically decode such strings, but if you need to do it manually, look for an appropriate function in the language or framework you use. For example, .Net developers can use the [XmlSerializer.Deserialize method](#).

The browser usually decodes the string automatically, and this can cause confusion during development.



The screenshot shows a browser window with the address bar containing the URL `sb2aspnet.servicechannel.com/xmlWS/service.asmx/XMLResponse`. Below the address bar, a message states: "This XML file does not appear to have any style information associated with it. The document tree is shown below." The XML content is displayed as follows:

```
▼<string xmlns="http://aspnet.servicechannel.com/xmlws/service.asmx">  
  <?xml version="1.0" encoding="utf-8"?><string>Cannot update Work Order that is not assigned to your Provider ID</string>  
</string>
```

WEB SERVICE

The information exchange occurs via [Web services](#), which is a standardized way of integrating Web-based [applications](#). XML is used to tag data, GET/POST methods are used to transfer the data. Web services allow to communicate data without intimate knowledge of the IT systems behind the [firewall](#).

Web services allow different applications from different sources to communicate with each other without time-consuming custom coding, and since all communication is in XML, web services are not tied to any single [operating system](#) or [programming language](#).

TESTING INFRASTRUCTURE

During the testing stage, the below-mentioned web service address is used. The developer is provided with the web service credentials at request. Using the SC test website and the Test Web Service, the developer can perform all required tests and visually see updates on the ServiceChannel website.

SC test website:

<https://sb2login.servicechannel.com>

Test Web Service:

<https://sb2aspnet.servicechannel.com/xmlWS/service.asmx>

XmlResponse or PostXml are methods used for all updates. StoreID and CustomerID are required for testing.

INCOMING XML WALKTHROUGH

This section provides a quick XML integration walkthrough. All the payloads should be tested using Test Web Service:

<https://sb2aspnet.servicechannel.com/xmlWS/service.asmx?op=postXML>

Also, ask your implementation manager to provide you with StoreID and CustomerID.

We start with a WO in OPEN status, then we check in, and finally check out with the COMPLETED_PENDING status.

Step 1. Find OPEN work order

Sign in to [SC test website](#) and find a WO in OPEN status. Note its tracking number.

Location ID (Reg-Dist) Name Address Address Addl City State Zip Trade Provider	Tracking Work Order Purchase Order Invoice Amount	Date Age Caller Call Created By Exp. Date OR Orig. ETA	Problem Description
		Sched. Date Work Date Total Hours	Resolution
XML TEST SUB(PLEASANT VALLEY) 01 (-) Pleasant Valley 1	60262053 80262053 60262053 View	6/25/2015 14:23 EST 3 Days 0 Hrs Mike Pleasantxml6/25/2015 18:23 EST	Category: REPAIR Priority: Sev 1 NTE: 0.00 TEST Car's Spelling
NY BUILDING EXTERIOR PLEASANT VALLEY CONSTRUCTION CO.	Notes 06/28/15 Attachments Create Pinwheel	6/25/2015 18:23 EST 6/26/2015 19:04 EST	Note 2: WO Edited: status changed from COMPLETED to OPEN.

Step 2. Check in

Go to [Test Web Service](#), enter StoreID and CustomerID, copy-paste the code, edit values in bold, and click **Invoke**.

```
<?xml version="1.0"?><DATA2SC PIN="183852" ID="1234"><CALL TR_NUM="60262053"
STATUS="ON_SITE"><CHECK PIN="183852" ID="001" TYPE="IN" DATETIME="2018/01/30
15:00:00"></CHECK></CALL></DATA2SC>
```

postXML

Test

To test the operation using the HTTP POST protocol, click the 'Invoke' button.

Parameter	Value
StoreID:	<input type="text" value="[provided by SC]"/>
CustomerID:	<input type="text" value="[provided by SC]"/>
XMLMsg:	<input >"="" <data2sc="" 1.0"?>="" id="1234" pin="183852" type="text" value="<?xml version="/>
<input type="button" value="Invoke"/>	

Step 3. Check WO status

Go back to [SC test website](#), refresh the page, and check if the WO status has changed to IN PROGRESS / ON SITE.

Location ID (Reg-Dist) Name Address Address Addl City State Zip Trade Provider	Tracking Work Order Purchase Order Invoice Amount	Date Age Caller Call Created By Exp. Date OR Orig. ETA	Problem Description
		Sched. Date Work Date Total Hours	Resolution
XML TEST SUB(PLEASANT VALLEY) 01 (-) Pleasant Valley 1 NY BUILDING EXTERIOR PLEASANT VALLEY CONSTRUCTION CO.	60262053 60262053 60262053 View	6/25/2015 14:23 EST 3 Days 1 Hrs Mike Pleasantxml6/25/2015 18:23 EST	Category: REPAIR Priority: Sev 1 NTE: 0.00 TEST Carl's Spelling
	Notes 06/28/15 Attachments Create Proposal	6/25/2015 18:23 EST 6/25/2015 15:03 EST	ExtStatus:ON SITE Note 2: WO Edited: status changed from COMPLETED/to OPEN/ Completed Call Edited/ Created By: Pleasantxml Date: 6/28/2015 14:58 Scheduled Date: 6/25/2015 18:23

Step 4. Check out and change WO status

Go to [Test Web Service](#), enter StoreID and CustomerID, copy-paste the code, edit values in bold, and click **Invoke**.

```
<?xml version="1.0"?><DATA2SC PIN="183852" ID="1235"><CALL TR_NUM="60262053"  
STATUS="COMPLETED_PENDING" COMPL_DATETIME="2018/01/30 15:10:00"><CHECK PIN="183852" ID="001"  
TYPE="OUT" DATETIME="2018/01/30 15:10:00"></CHECK></CALL></DATA2SC>
```

Step 5. Ensure WO is completed

Go back to [SC test website](#) and check if the WO status has changed to COMPLETED_PENDING / COMPLETED_PENDING.

Location ID (Reg-Dist) Name Address Address Addl City State Zip Trade Provider	Tracking Work Order Purchase Order Invoice Amount	Date Age Caller Call Created By Exp. Date OR Orig. ETA	Problem Description
		Sched. Date Work Date Total Hours	Resolution
XML TEST SUB(PLEASANT VALLEY) 01 (-) Pleasant Valley 1 NY BUILDING EXTERIOR PLEASANT VALLEY CONSTRUCTION CO.	60262053 60262053 60262053 View Create Invoice	6/25/2015 14:23 EST 3 Days 1 Hrs Mike Pleasantxml6/25/2015 18:23 EST	Category: REPAIR Priority: Sev 1 NTE: 0.00 TEST Carl's Spelling
	Notes 06/28/15 Attachments Create Proposal	6/25/2015 18:23 EST 6/28/2015 15:06 EST	Note 2: WO Edited: status changed

FAQ

What is the difference between OPERATOR and CALLER?

OPERATOR is the username of the person who entered a WO, while CALLER is the username of the person who requested service. OPERATOR and CALLER can be the same.

What is the meaning of PROBLEM?

The <PROBLEM> tag contains the description of the problem.

Is it possible to have multiple nests in one transaction?

No, we allow only one message per transaction.

How can I test the XML integration?

The Test Web Service and SB2 database and environment are available for testing.

How does SC send data?

ServiceChannel uses the “push” mechanism: data is gathered as it is created, converted to XML, JSON, or cXML formats, and is delivered via a web service.

How are error messages delivered?

All errors are reported [as a return value](#) upon each transaction.

Do I have to integrate both with incoming and outgoing XML?

It is not a requirement to have a two-way integration, but it is highly recommended.

SC supports both HTTP POST and GET methods. Which one is better?

We recommend to use POST as it has less limitations. See [HTTP Methods: GET vs. POST](#) to find out why.

I'm sending check in/out information via XML, but working hours on the WO page are incorrect. What's wrong?

To have working hours calculated correctly, you need to use different ID values for each pair of check in/out messages. For example, ID="0001" for the first pair and ID="0002" for the second pair of connected check in/out messages. See [Two Techs, Same WO](#) for more examples.

Why is my XML message rejected with “No changes allowed” error?

ServiceChannel does not allow to make changes to WOs with one of the COMPLETED statuses (COMPLETED, COMPLETED_PENDING, or some client-specific COMPLETED status).

Why is my XML message rejected with “Some mandatory fields are absent. (PIN - SUB - PRIORITY - LOC - CATEGORY - TRADE - DATETIME - CALLER - OPERATOR - PROBLEM)” error?

Normally, we process XML messages received from providers as a request to update a WO. If a WO number specified in your XML message is not found, we process your message as a request to create a WO. If you want to create a WO, add all the fields listed in the error message and specify their values. Also, do not leave the <PROBLEM> tag empty.

Why is my XML message rejected with “There is nothing to update” error?

This error is generated when your message contains values that are equal to the current values in the specified WO.

I'm trying to specify new scheduled date, but my message is rejected with an error. Why?

The following rules are used:

- For maintenance WOs, the new scheduled date/time cannot be before the call date/time, before the reassign date/time, or after the expiration date/time.
- For other categories, the new scheduled date/time cannot be before the call date/time or before the reassign date/time.

Why are some datetime values indicated incorrectly?

The XML integration expects all datetime values to be in a location time zone.

Can a WONEW messages contain a status other than OPEN?

Yes, this may happen. Outgoing XML messages are generated in the production environment each 2 minutes. In some cases, a WO can be updated before the initial message is sent out. That is why a WONEW message may contain status other than OPEN. Clients can also generate WOs with the original status that is different from OPEN.

I created WOs in SB2 environment last week but now I can't find them. What's happened?

The Production DB is replicated to SB2 each weekend. As a result, all changes made in SB2 during the previous week are lost. That is why it's better not to start testing on Friday.

Why do the notes received via XML sometimes have corrupted numbering in the LINE field?

The LINE field is deprecated and can be incorrect. It's still included into outgoing XML messages for compatibility reasons. Use the DATETIME field to sort notes.

I'm sending a request to add a note with ACTION_REQUIRED and MAIL_TO and getting the "OK" status back, but emails are not delivered. What's wrong?

Sending out an email is a time-consuming operation. To avoid blocking for any further XML transactions, the "OK" reply is sent. This means that the request is received and will be processed, but the actual email generation and sending out is implemented in a separate asynchronous process.

Can I use the XML integration to submit invoices or add attachments?

No. Currently, the XML integration does not support these features.

However, you can send emails to submit invoices to SC.

You can also send emails to upload attachments to WOs. Just use the WO tracking number as the subject, attach a file, and send it to attachments@servicechannel.net.

My XML integration is suddenly broken, all messages are rejected with "Your web-service credentials are not valid, they do not match the PIN in the transaction" error. What's happened?

Ensure that the user [linked to the XML integration](#) has not been disabled. If required, contact contractorsupport@servicechannel.com to change the user. We recommend to create a separate "integration" user.

If my endpoint is unavailable for a few minutes, will SC try to resend undelivered XML messages?

We try to resend a message several times, but this depends on the type of an error we receive. See [Amazon SNS Delivery Retry Policies](#).

By default, we use 5 retries with the delay growing from 10 to 300 seconds.

Should I use the same StoreID and CustomerID for all locations and customers?

StoreID and CustomerID are connected to your ProviderID and are the same for all your clients and their locations.

I have some additional questions on the XML integration, how can I get everything explained?

First of all, visit [XML Integration section](#) on ServiceChannel University where you can find some additional information, hints, and samples.

If you still have questions, send an email to contractorsupport@servicechannel.com and someone from the integration team will help you out.