PIXI Interface Problems and Solutions

Tips and tricks using SAP PI / XI servers
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Introduction

SAP XI/PI technology is new. It's been on the market for 2-3 years and mainstream clients have just started using it. We collected some experience we would like to share, so you can spare time and concentrate on your important tasks.

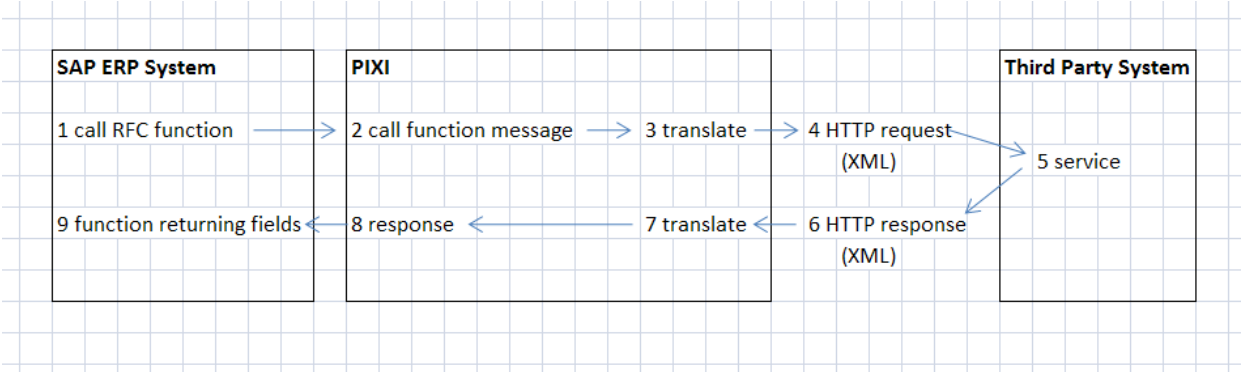
PIXI

If you wonder what PIXI is, then I tell you: It is an SAP product that was called eXchange Infrastructure(XI) and then unaccountably renamed to Process Integration (PI). Some were calling it XI, some PI leading to frequent misunderstandings. So Common Sense intervened and since then they are unofficially called PIXI servers.

Anyway behind the good idea there are some fine adjusting you might need some help with. We created a nice online interface that looks like this:

It is not a SOAP interface, but very similar actually without the SOAP structures and envelopes.

Message Flow

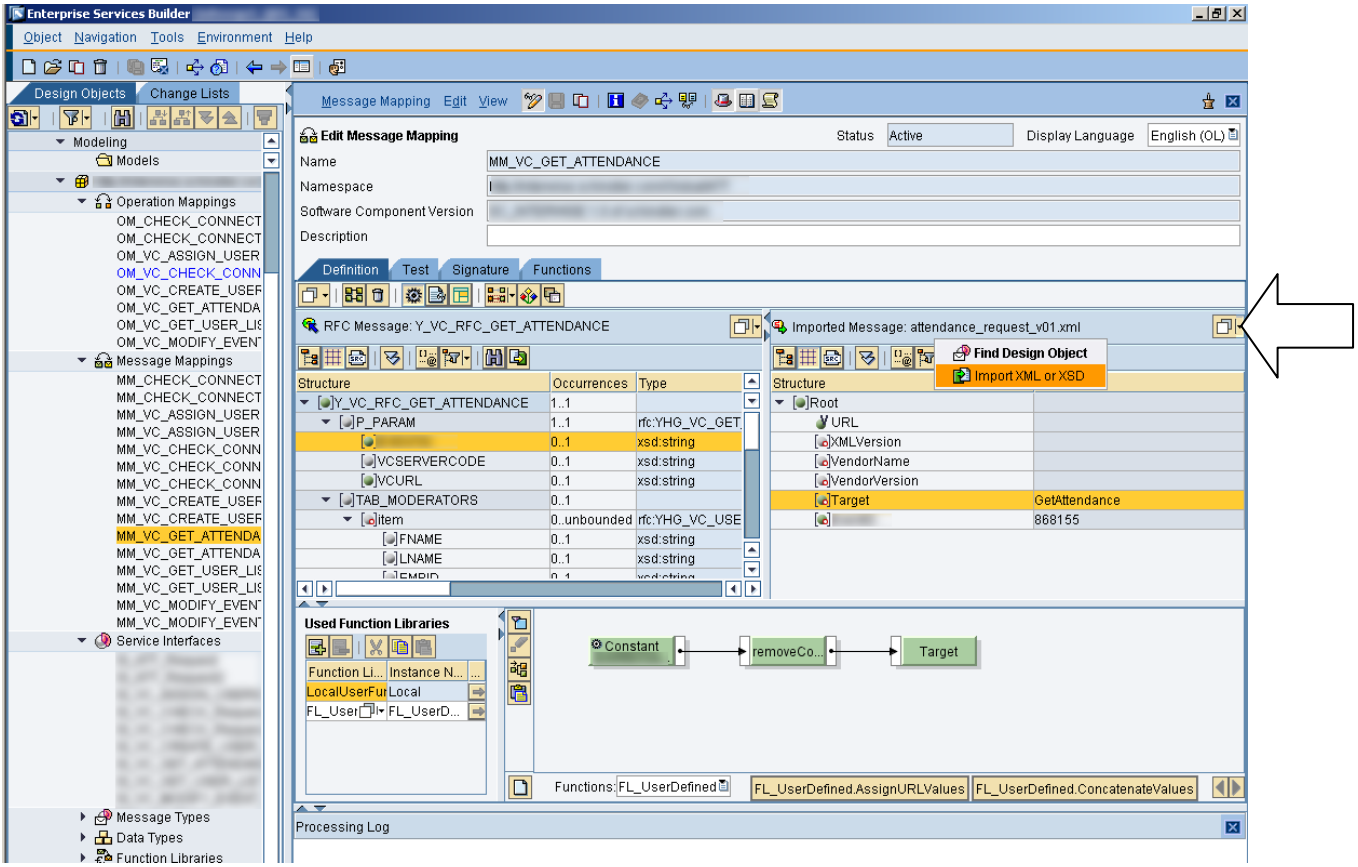


The Checklist I've used

on basis ERP system:	1	create transfer structures (SE11)
	2	create basis system RFC functions (SE37)
in enterprise service builder:	3	import RFC functions to PIXI
	4	message mapping RFC->request.xml
	5	message mapping response.xml->RFC
	6	operation map
	7	service interface (you dont need message or data types, if you have example XML files)
in integration builder:	8	source business component or communication component (if you dont have that already)
	9	target business component or communication component (if you dont have that already)
	10	receiver determination
	11	interface determination
	12	sender agreement
	13	receiver agreement

Message and data types

I have good news: you don't need them. If you have example XML files, you just use them to create your message mappings. You can push the import button as seen on the following picture and just choose your message. The other side is, of course, the RFC function interface. Don't forget that for each function you need two message mappings: 1 request and 2 response.

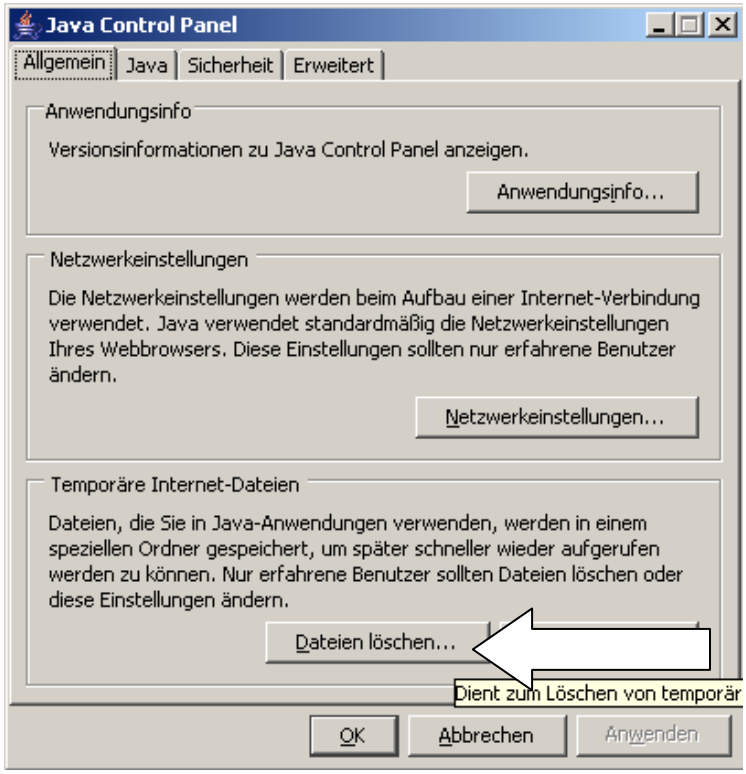


Computer memory requirements

My computer had only about 800 mb of memory. As I needed access to one erp and two PIXI servers I really used up all my memory and then the whole thing got stuck. For one click I needed about 15 seconds. This made me crazy, but my dear collegaue helped quickly by installing 2 GBs of RAM into my computer. I would say this is the minimum, if you want to work in flow.

Java problems

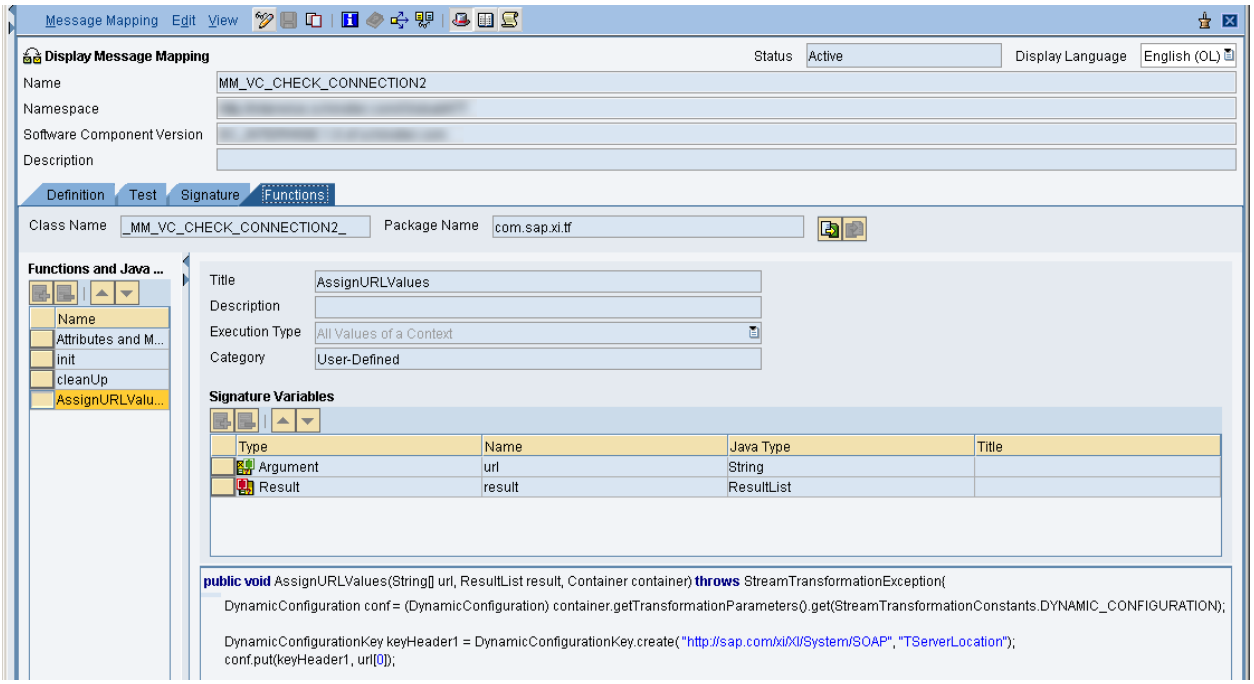
God created the Sun and Sun made Java. ;) It doesn't mean however, that it is perfect. For example we had an error like "Enterprise Services Directory cannot be started" ("Enterprise Services Repository kann nicht gestartet werden"). I've not yet found a perfect solution, but if you go "Control Panel" in windows then Java Control Panel and you remove all temporary internet files, it will start well.



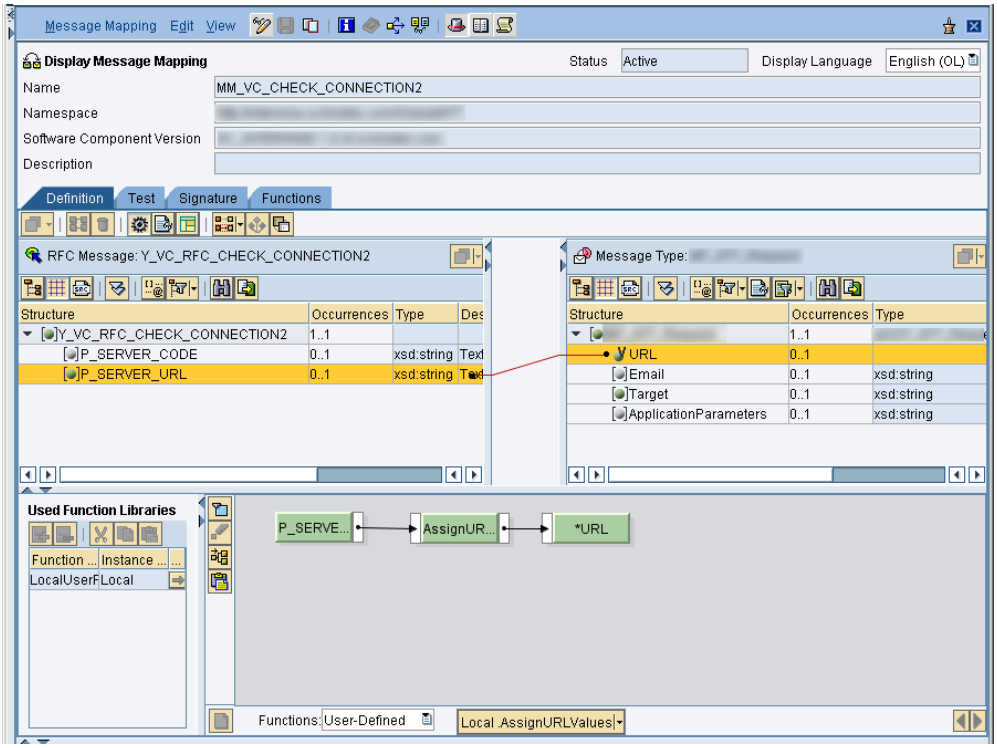
Dynamic URL routing

So you need to communicate with more than one servers? This will be tricky.

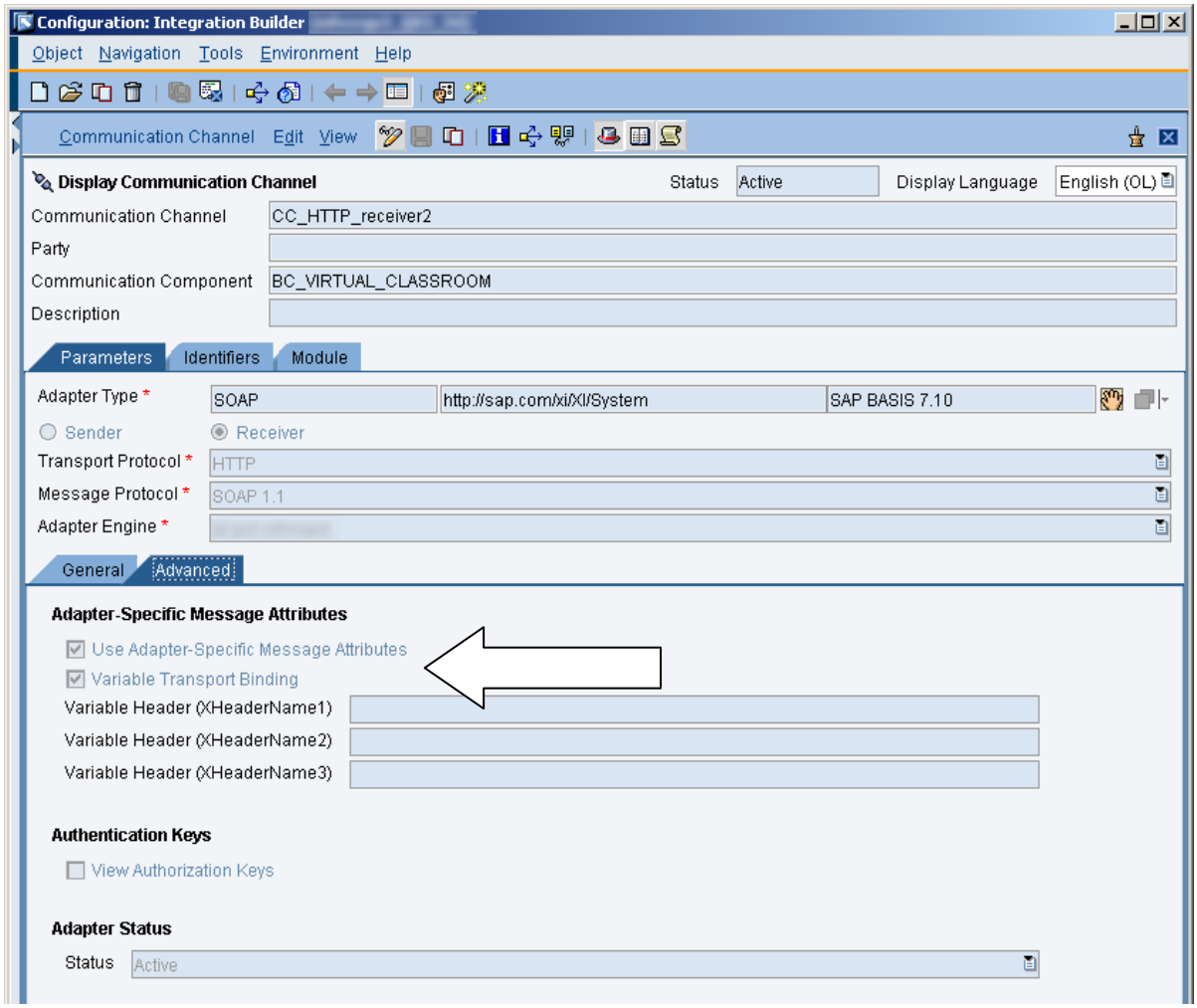
Steps needed:



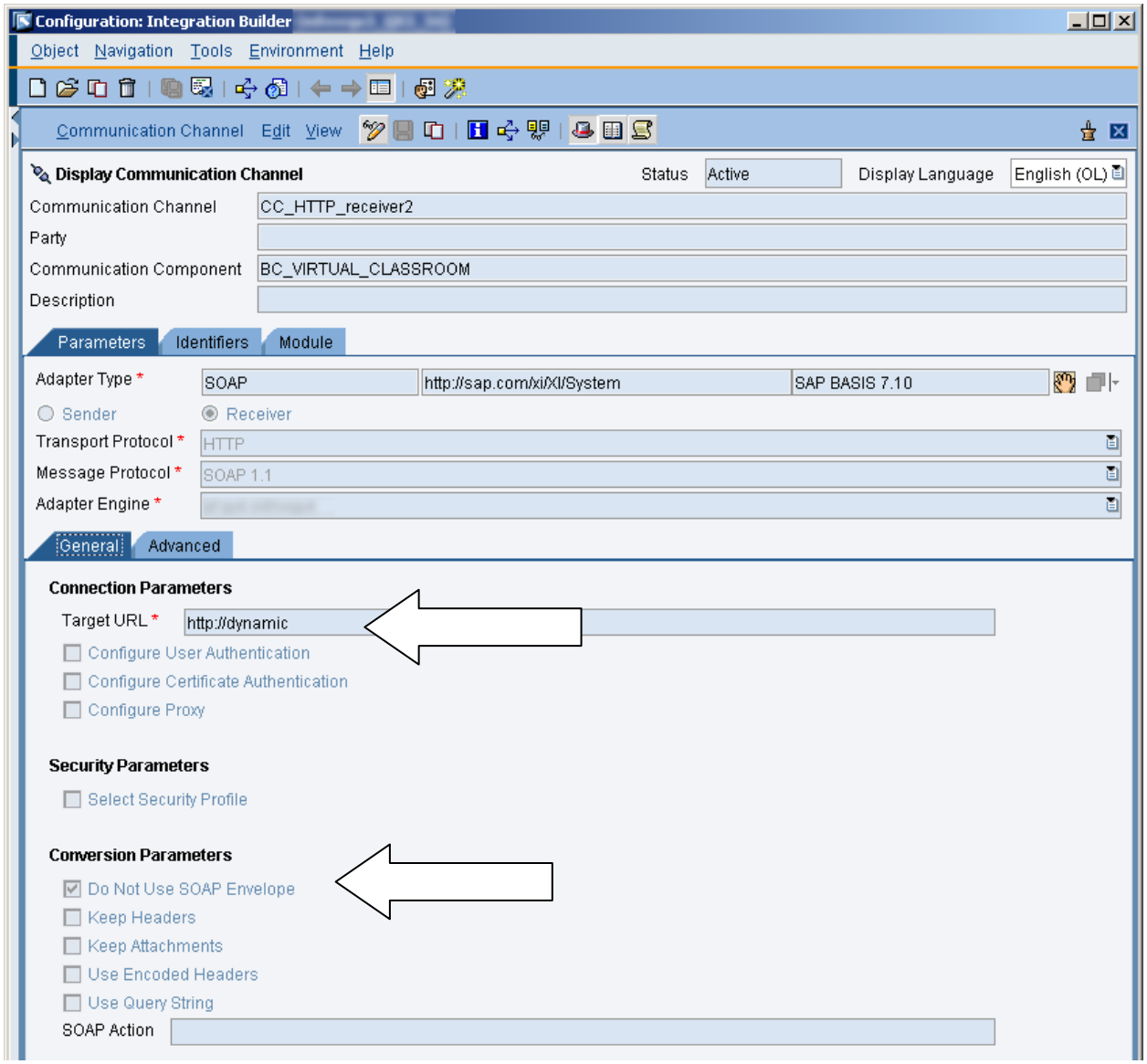
1. Create a function to put the URL into the header



2.On the input side, you deliver the URL, what you then transfer to a variable using your function from step 1



3. In Integration builder you set up a communication channel like this



4. You also set these parameters by the communication channel

Take special care for the URL you filled in as default, it has to have “HTTP://something” in it. (see screenshot)
Then, as a grotesquely beautiful additional barrier: runtime cache of PIXI. I’m not talking about the SLD cache, what you can easily refresh from your “Enterprise Services Builder”. No, you have to start transaction SXI_CACHE in the SAP GUI of PIXI and then go and refresh the caches. We had a message mapping problem – short dump – and it took us one hour to find this problem and clean the cache system.

XML-Header: fix HTTP content type

This problem even caused a bodily reaction, some funny feelings somewhere in the back of my stomach. The XML content was painstakingly assembled and was checked again, again and again... It failed, failed and failed. I installed a beautiful XML and SOAP tester tool, soapUI (cheers to its developers) and tested

the same XML with it. It worked. The XML-content was the same – except from some whitespace characters – and still it gave different results.

So I installed a home made HTTP request saver and saved both requests for later analysis. This way I've found the solution:

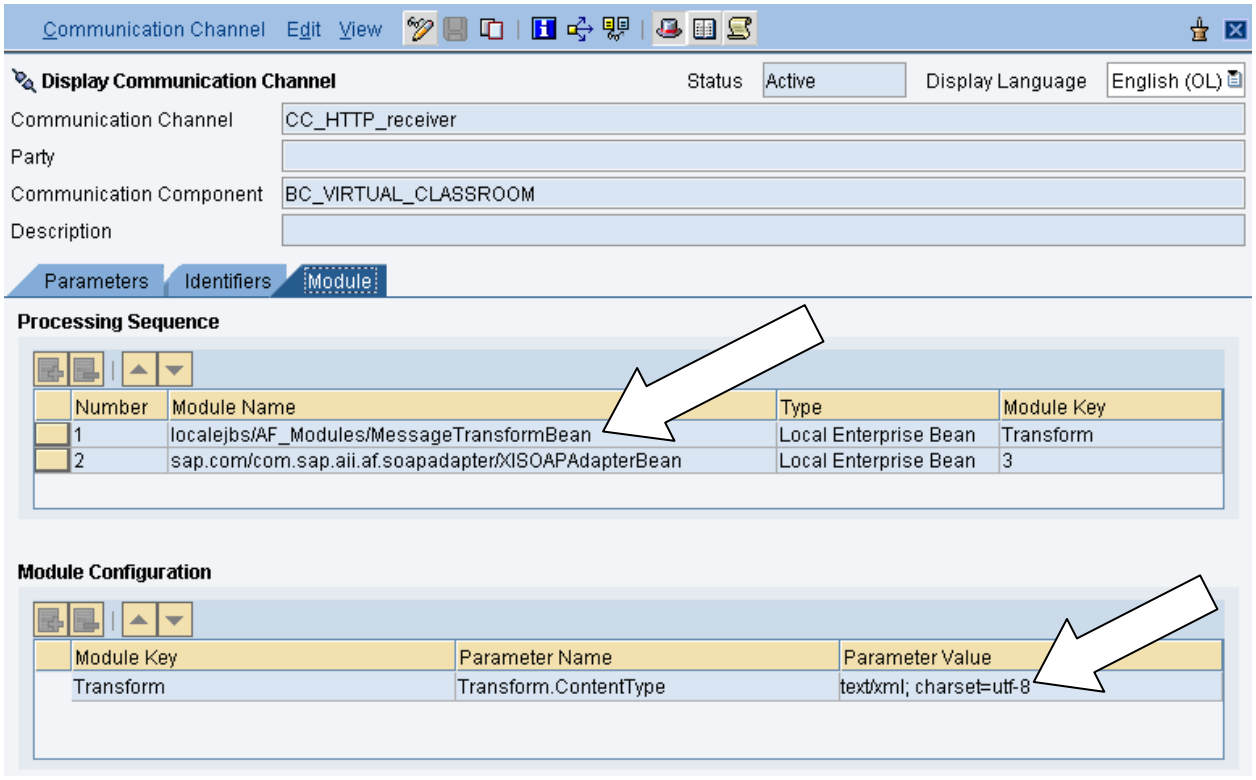
Both SAP and this third party are sure, how an XML header should look like. Both are sure, what the content type is. So they never even mention it. The only problem is, that they think differently:

HTTP content type is

- SAP: "application/xml"
- Third party: "text/xml"

This caused that uncertainity in the back of my stomach!

The solution is to go to your "communication channel" and extend it with a module according to the screen here:



Basis Problems

Our PIXI server was new – it was installed a few months before: as a result, about 10-20 hours were wasted because of basis problems like these:

- PIXI adapter not working
- PIXI cannot start Enterprise Services Builder
- PIXI buffers not initialized
- PIXI updated and communication channel not restarted (RFC connection short dumps)

This means that you need some time, until such a server is getting stable and has a good uptime percentage.

Conclusion

In the long run it makes sense to use PIXI interfaces, but you have to have enough experience and be prepared for all kinds of tricks – see above – to get the job done.

Appendix

Software components used

SAP PI(XI) 7.1

http://service.sap.com/xi
http://en.wikipedia.org/wiki/SAP_Exchange_Infrastructure

SAP ERP

http://www.sap.com/solutions/business-suite/erp/index.epx

SOAPUI

http://www.soapui.org/

About the developers

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Keywords

PI, XI, SAP, interface, online, HTTP, XML, RFC, function, message mapping, problems, solutions