

PWG Semantic Model discussion Issues

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ISSUE 1: Service inheritance

In the PWG Semantic Model v2.0 there has been a desire to move towards a more object oriented approach to the modeling of multifunction devices. To that end there was a generalization of status, description and processing elements. Putting aside the interface aspects of the class hierarch for now Figure 1 shows how we would like to see the services of a multifunction device inherit from an abstract Imaging Service super class. (Note: Only a few of the Services are shown for brevity) At the heart of this issue is that with XML Schema, and other language bindings, the Imaging Service is not the super class of the other Services. In Figure 2 the Imaging Service is shown to actually be an aggregation of other classes. It is these other classes (e.g. ServiceStatus) that are the super class of the service specific classes (e.g. PrintServiceStatus)

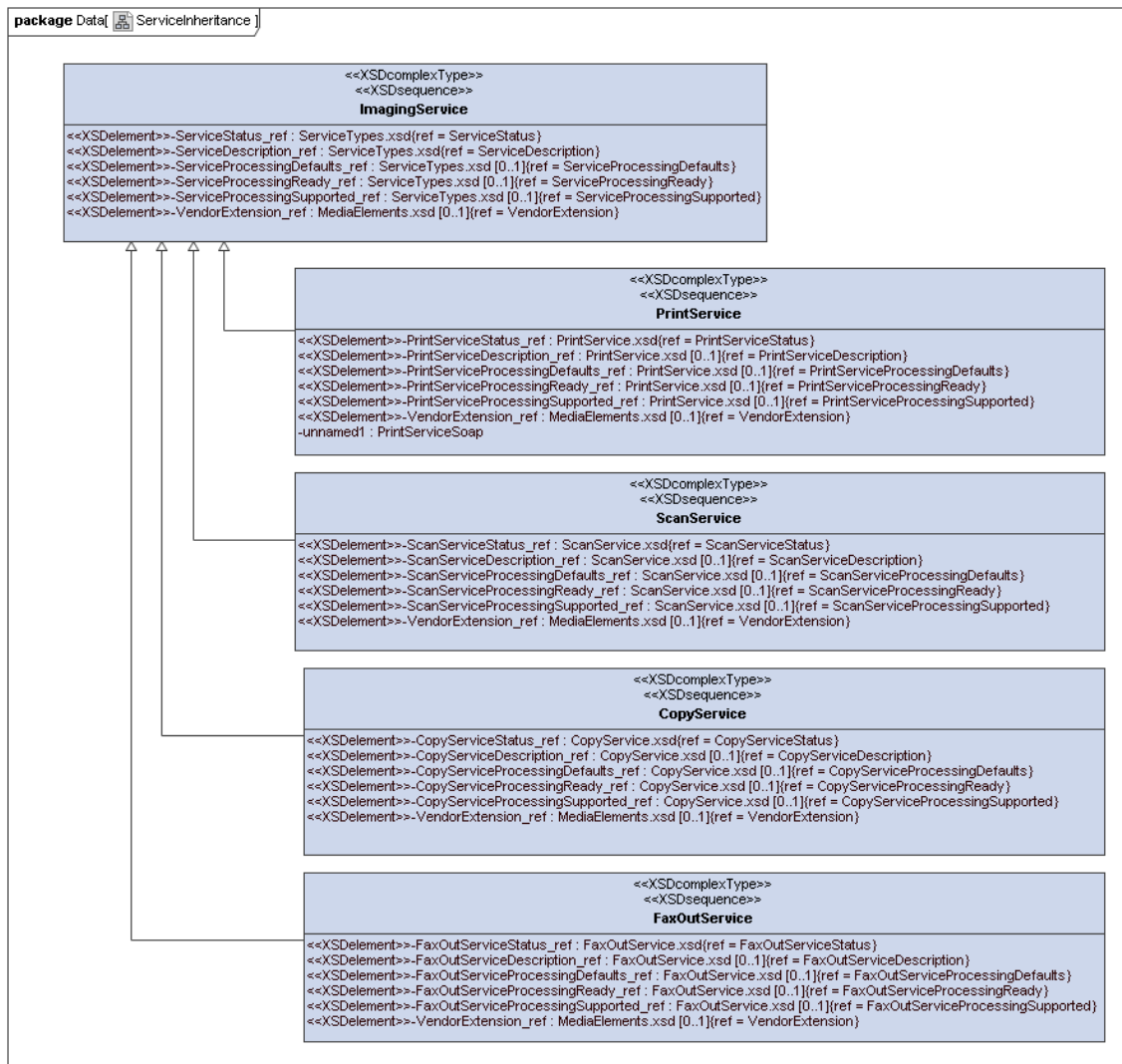


Figure 1 Service Inheritance

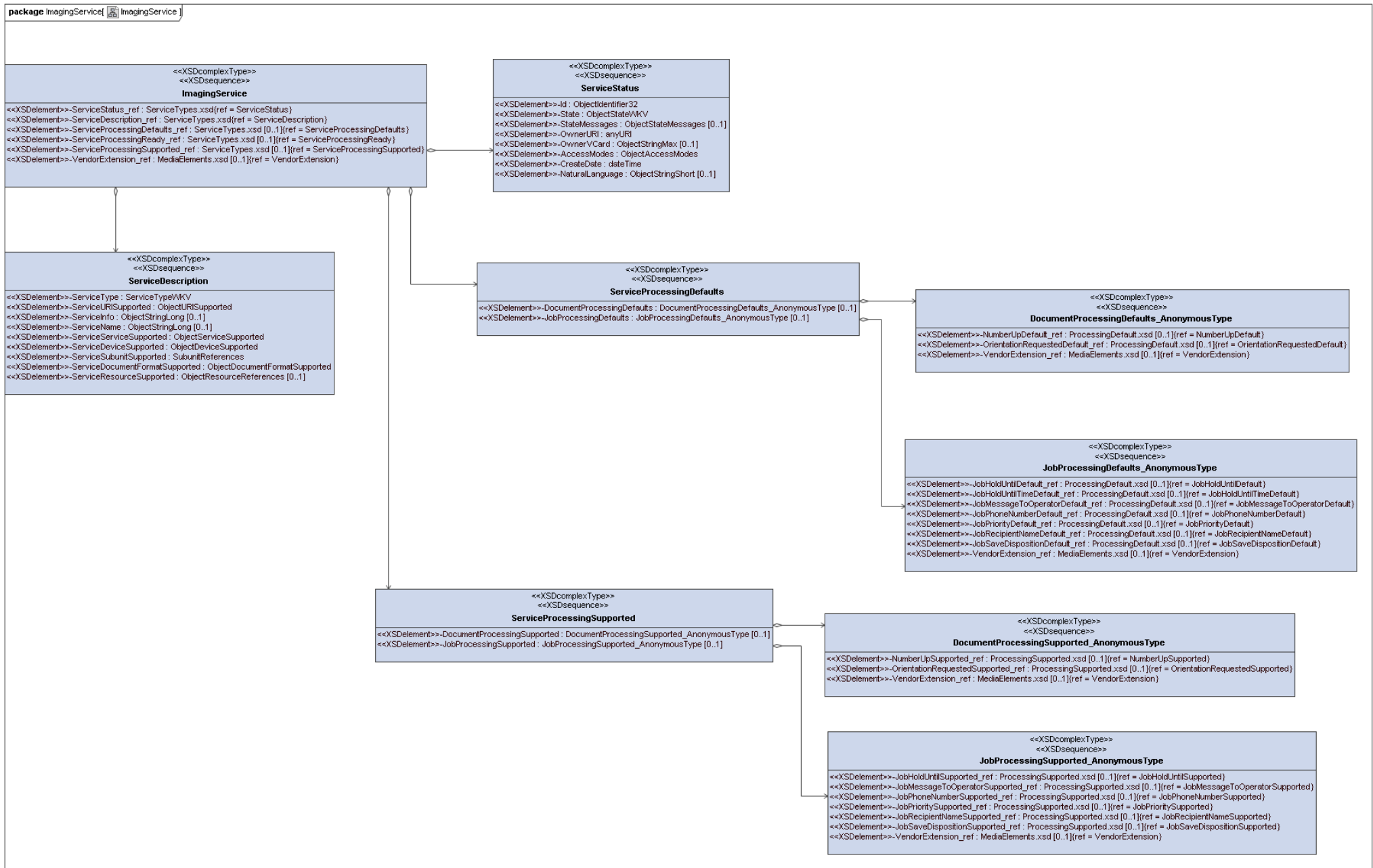


Figure 2 Imaging Service Aggregation

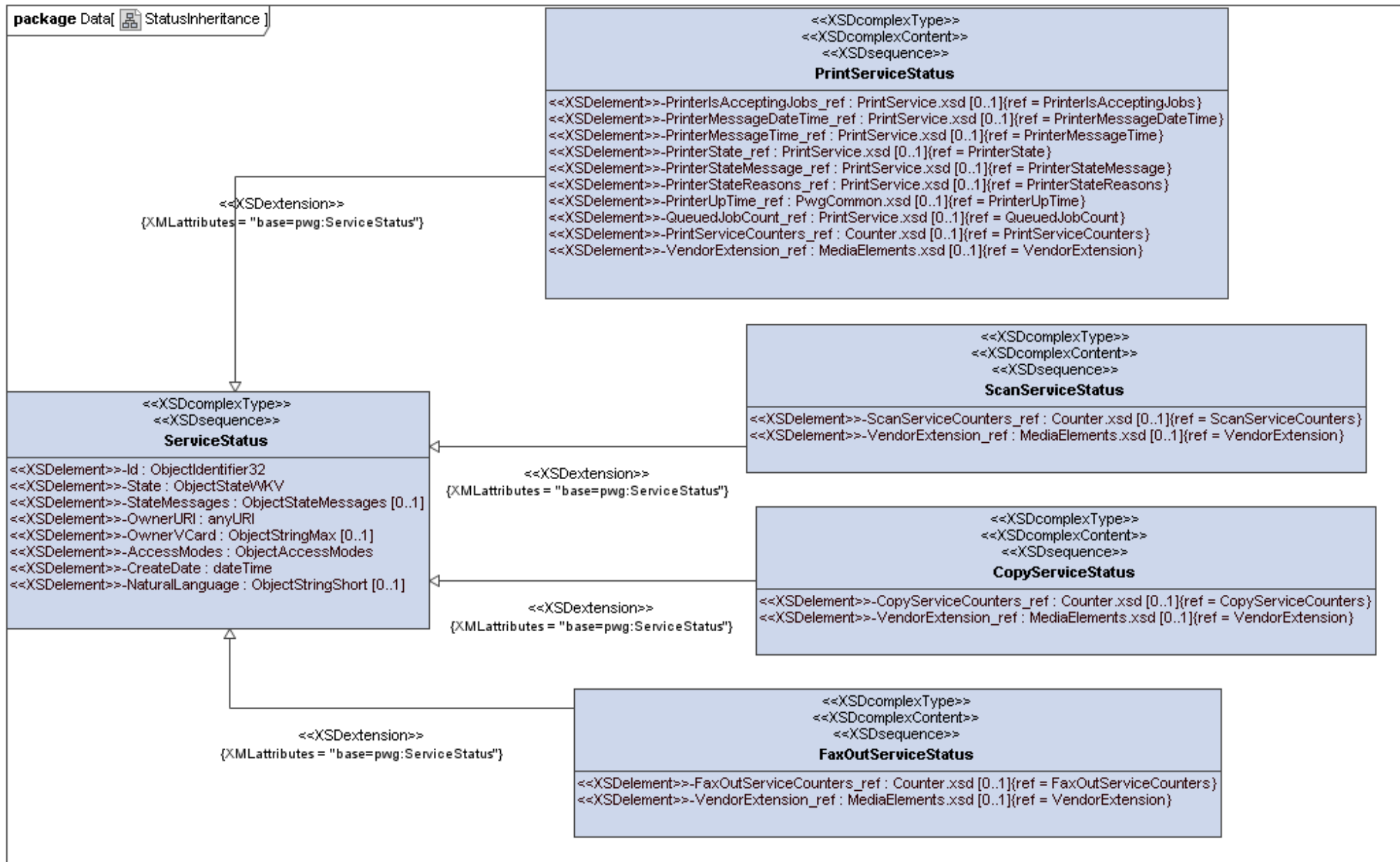


Figure 3 Service Status Inheritance

ISSUE2: Platens, Automatic Document Feeders and Film scanner

For multifunction devices we need to model the platen subunit as well as an automatic document feeder and possibly a film scanner. The current subunit seems to model the scanning unit itself. Is there also an associated light source that needs to be modeled? Possible attributes for the platen include minimum/maximum physical size, minimum/maximum physical and o resolution

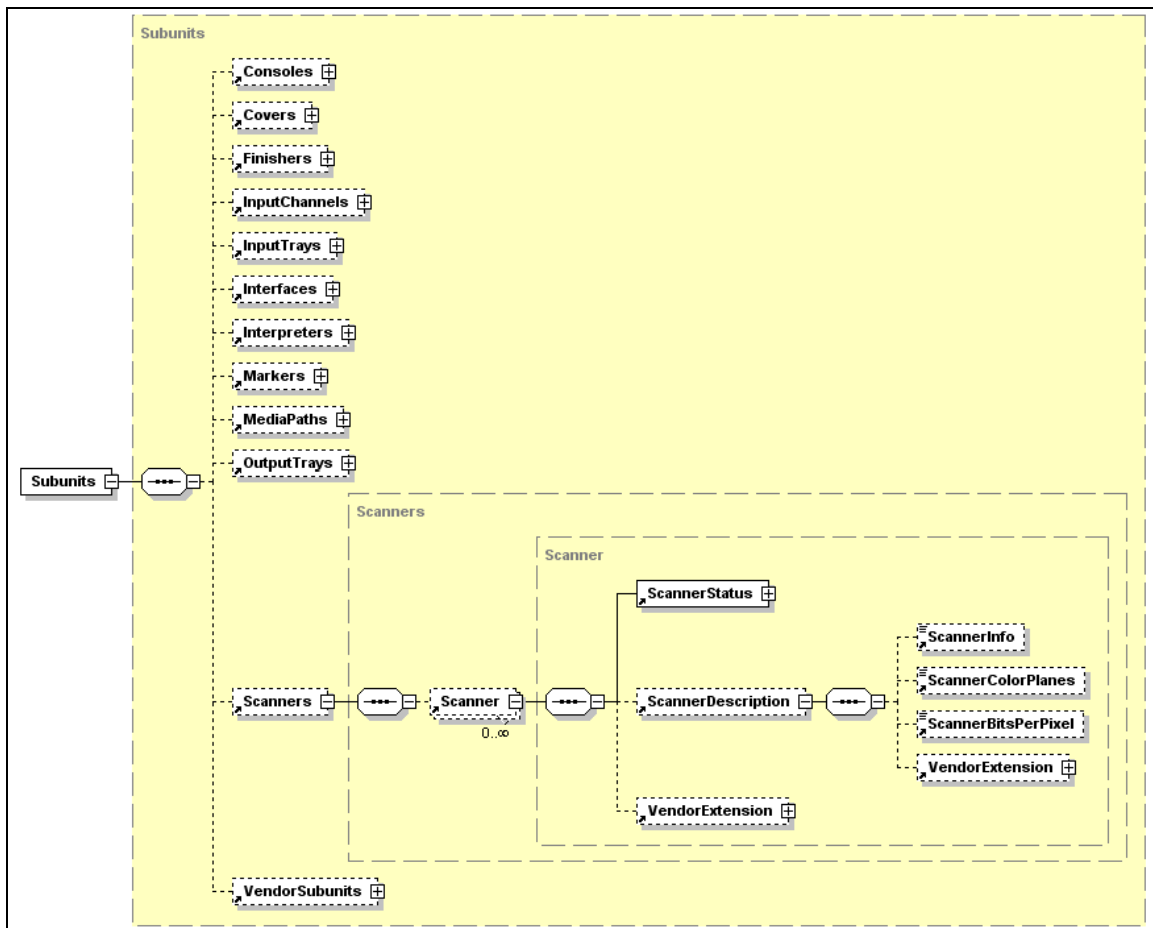


Figure 4 Subunits Schema (Scanner)

ISSUE3: Alert table (i.e. abnormal conditions) needs to be a first class object

The information from the Printer MIB Alert Table needs to be rooted under Server just like the subunits and services. The alerts should be system wide and shared by all the services and subunits.

ISSUE4: Should there be filtered views of subunits and alerts

From an operational point of view should the subunits and alerts be filtered based on the service that is queried for the information? If you query the FaxOut service, should you see the input or output trays? Does the “internal plumbing” of a multifunction device have to be externalized to clients of the Services?

ISSUE5: What operations are common across Services?

What operations are common to all imaging services? Are the semantic consistent?



Figure 5 Print Service WSDL (SendDocument detail)

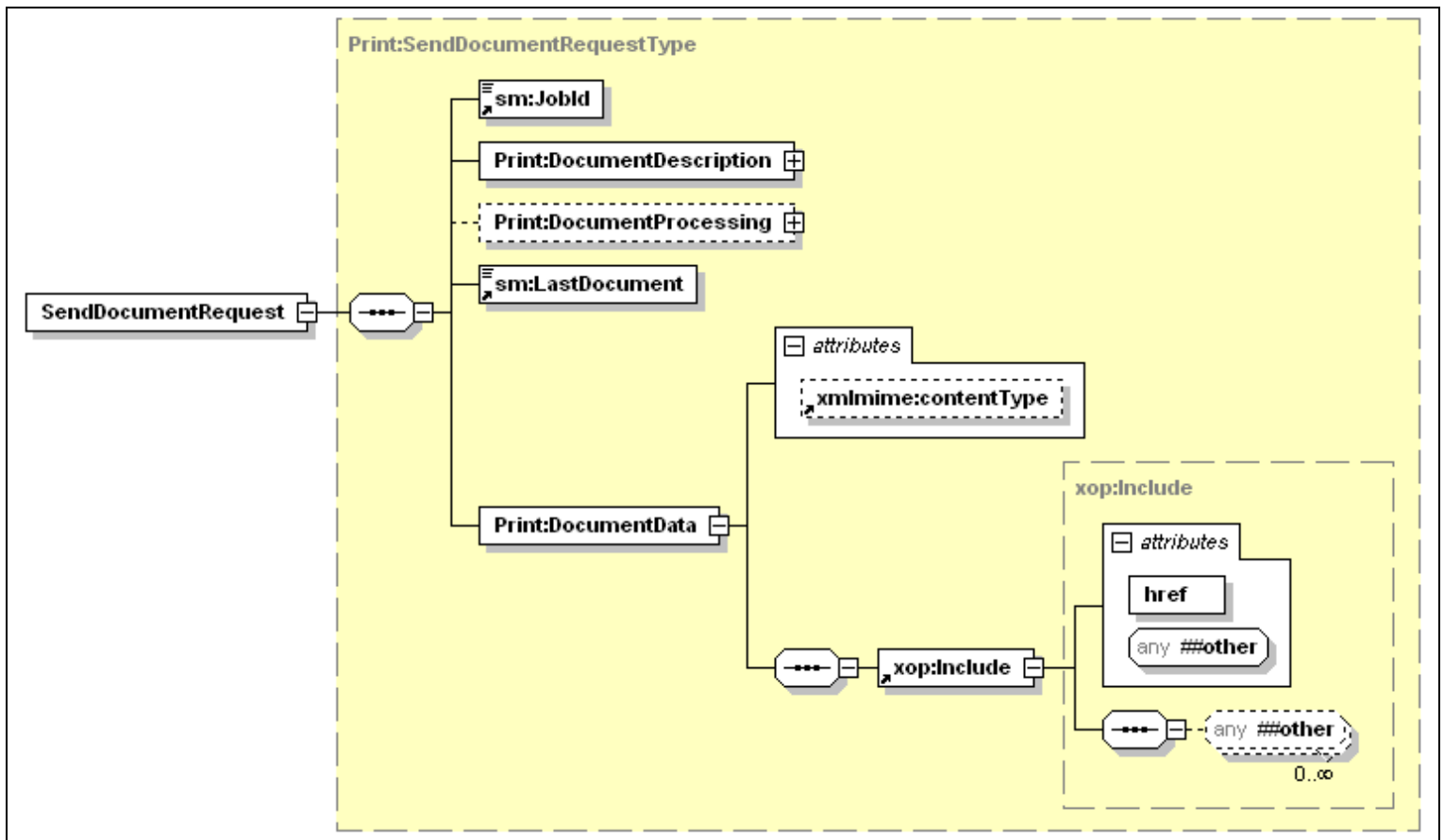


Figure 6 SendDocument Request

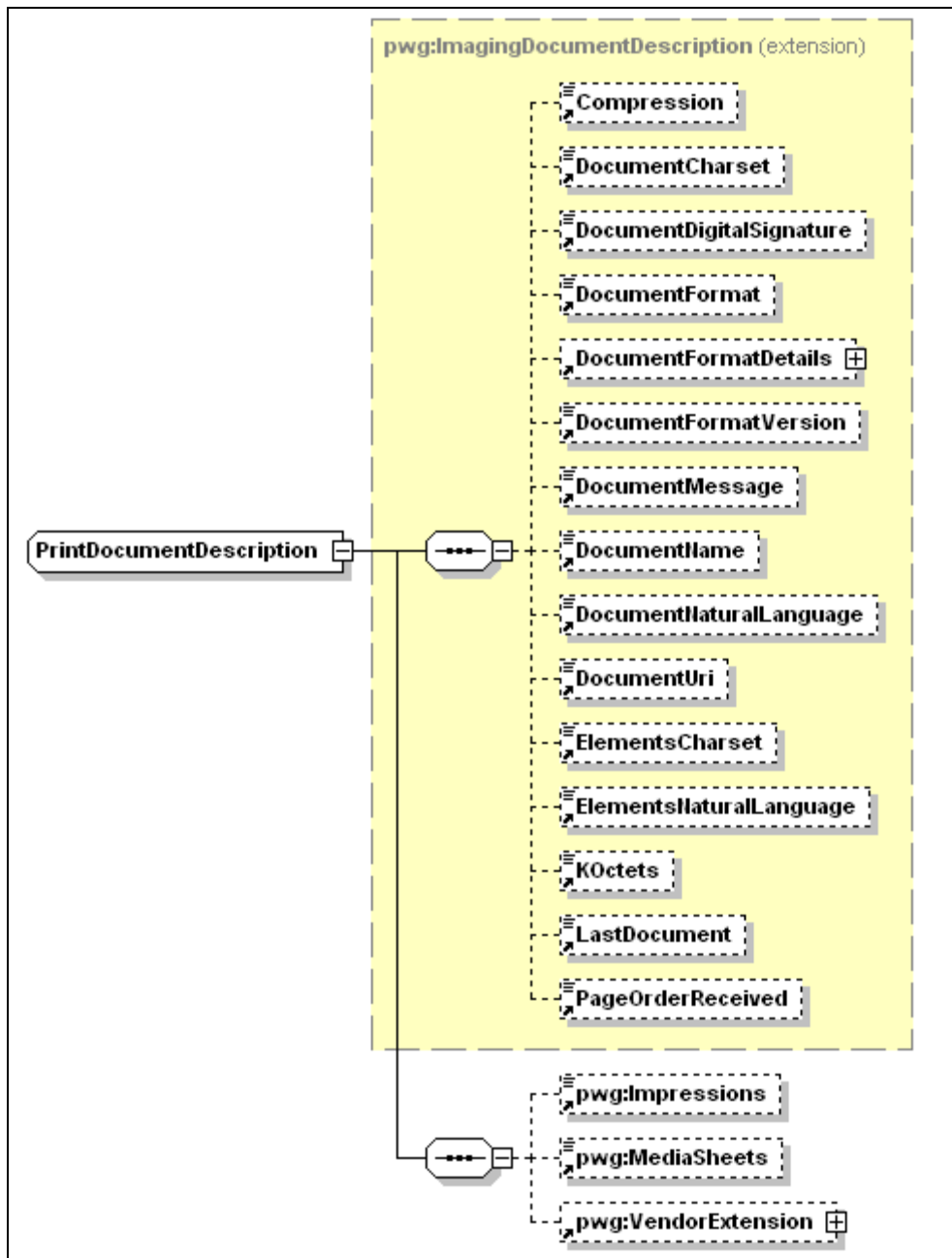


Figure 7 PrintDocumentDescription

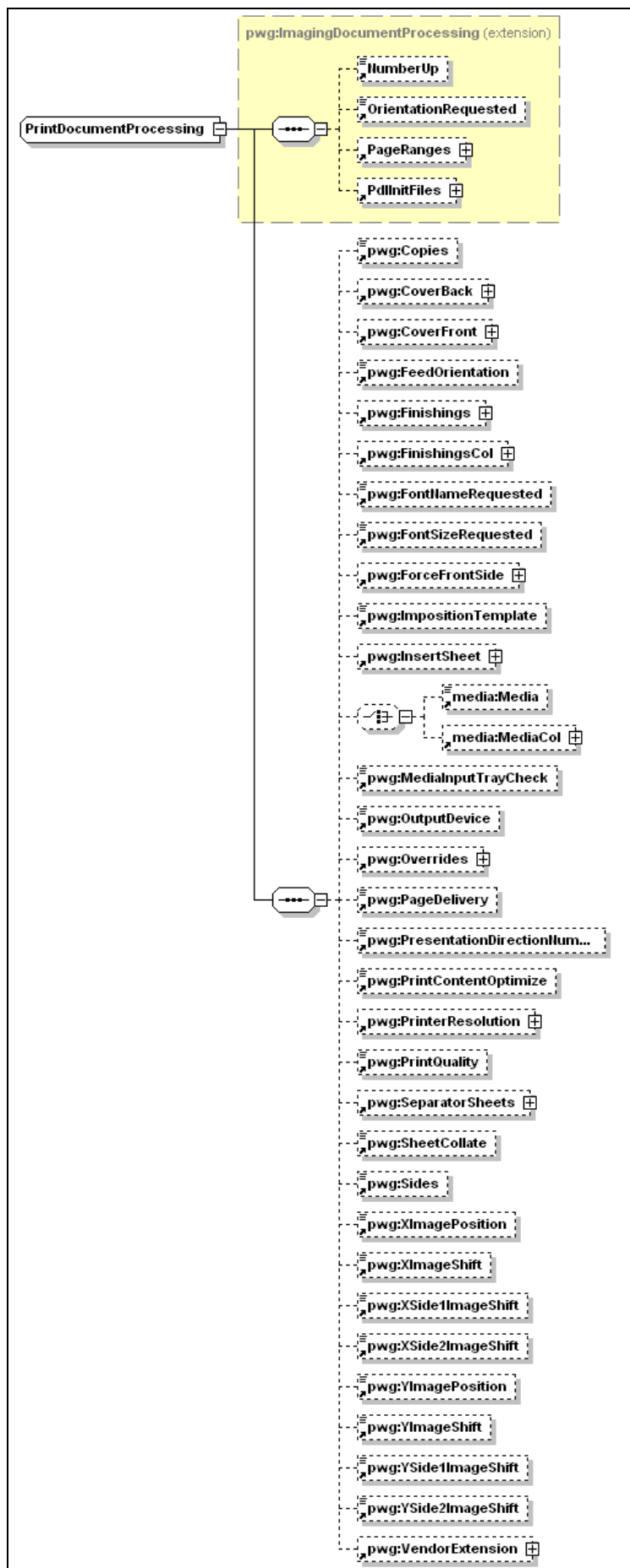


Figure 8 PrintDocumentProcessing

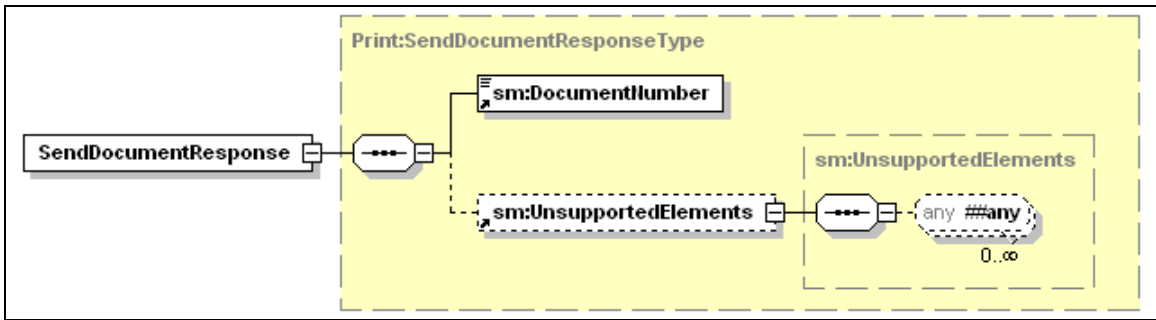


Figure 9 SendDocumentResponse

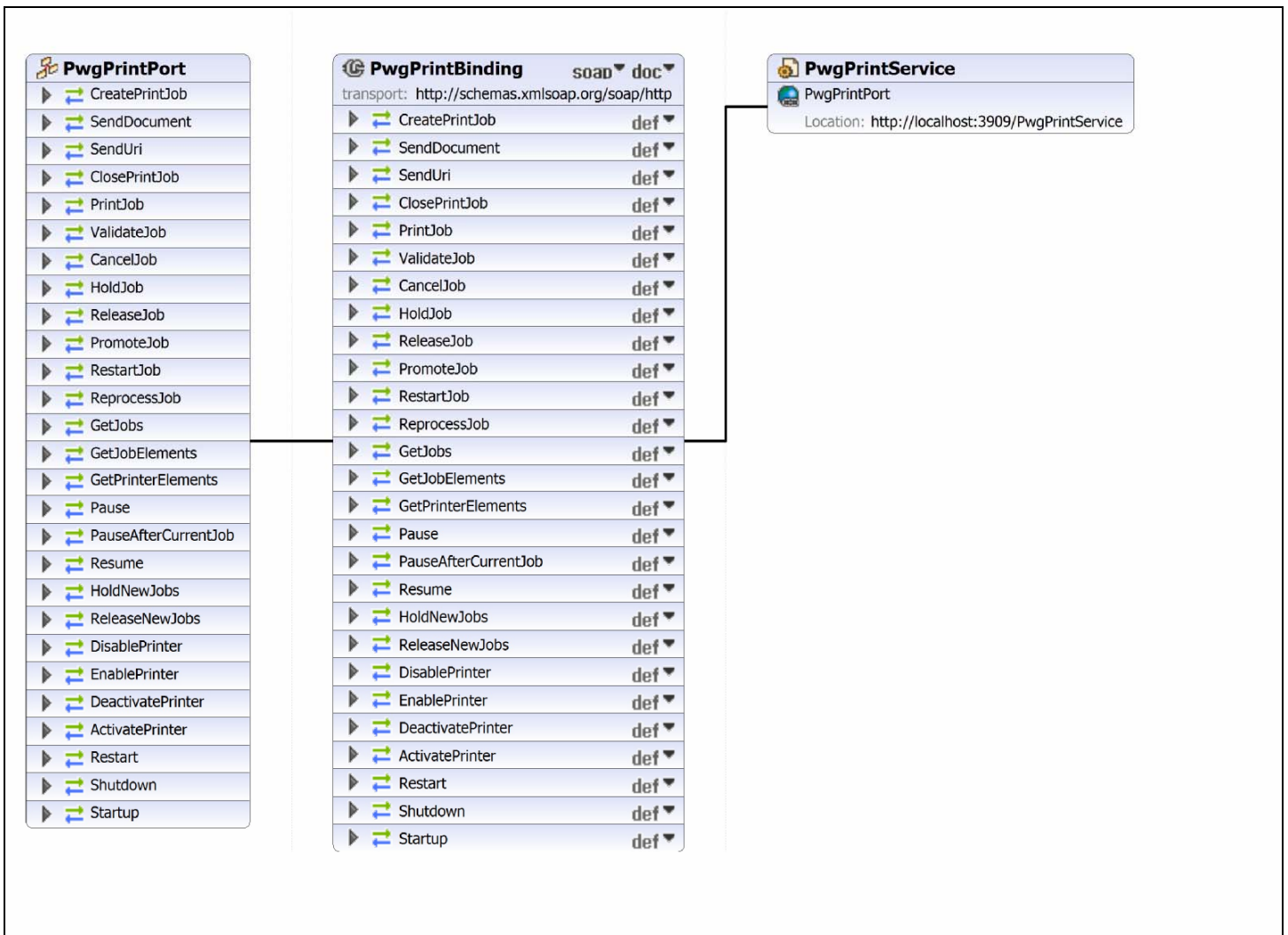


Figure 10 More complete Print Service