

1 **PWG MFD Working Group Face-to-Face Meeting Minutes**
2 **At Waikoloa Beach Marriott, HI**
3 **February 16-17, 2009**
4

5 **Feb. 16 Monday –**
6

7 **1. Attendees:**

8 Nancy Chen, Okidata
9 Lee Farrell, Canon
10 Ira McDonald*, High North Inc.
11 Glen Petrie, Epson
12 Ole Skov, MPI Tech
13 Jerry Thrasher, Lexmark
14 Bill Wagner, TIC
15 Dave Whitehead*, Lexmark
16 Peter Zehler, Xerox
17

18 *Phone-in attendee
19

20 **2. Introduction & PWG IP Policy :**

21 Peter Zehler, the MFD Working Group Chairman called the meeting in order.
22 Pete reminded attendees the PWG IP policy we need to comply. No objection.
23

24 **3. Minutes Taker Assigned: Nancy Chen**
25

26 **4. Agenda:**

27 There was no objection to the agenda below:

28 1:00-1:15pm : Introductions, Assign Minute Taker(s)

29 1:15-2:15pm : Discussion of State issue resolution for Scan, Resource and MFD

30 2:15-2:30pm : Break

31 2:30-?:??pm: Review of Scan Service Last Call comment resolution, Review
32 Resource Service comments
33

34 **5. Discussion of State Issue Resolution for Scan, Resource and MFD**

35 The discussion was based on the state transition tables and diagram of the Scan
36 Service in the working draft:

37 <ftp://ftp.pwg.org/pub/pwg/mfd/wd/lcrc-mfdscanmodel10-20090213.pdf>

38 • **Review Table 2 Scan Service State Transition by Operations**

- 39 ○ Testing state can only be entered and left from Down state.
40 ○ No ‘test’ operation is defined. A Note had been added that says “No Test
41 related operation or events are defined in this specification or protocol and
42 they are included to indicate the transition is made in an implementation
43 specific manner”.
44 ○ A Startup operation can be entered from Unknown state then transits
45 through Down state to Idle state. A Note had been added that says “The
46 transition out of Unknown state via a Startup operation or event indicates a

- 1 sequence of state transitions. The service will move from ‘Down’ then
 2 transit to ‘Idle’. Based on system conditions transitions onto ‘Processing’
 3 or ‘Stopped’ are possible.”
- 4 ○ Startup from ‘Down’ state is the same as a Restart operation.
 - 5 ○ DPA spec says that the service should respond with error to those
 6 operations not applicable to the state. Change “N/A” to “error” in Down
 7 state for operations disable, enable, pause, resume, shutdown. Add Note
 8 that says “it produces an error response”.
 - 9 ○ DPA allows test to be entered in Testing state. Change ‘error’ to ‘test
 10 (Testing)’
 - 11 ○ Resume operation in ‘Idle’ will clear the condition ‘C.Pause’.
 - 12 ○ Delete the second row of Resume operation transitions – it’s redundant.
 - 13 ○ Restart operation can be entered from any state and transits to Idle state.
 - 14 ○ Restart operation in ‘Idle’ will cause a restart service and stay in ‘Idle’.
 - 15 ○ Resume in ‘Processing’ will clear the Pause condition.
 - 16 ○ Below is the corrected service state transition table by operations:
 - 17

SERVICE STATE MACHINE (Operations)					
Input	State				
	Down	Testing	Idle	Processing	Stopped
Operation (Condition)	Action (new state)	Action (new state)	Action (new state)	Action (new state)	Action (new state)
DisableScanService	error Add note that it produces an error response	disable (~C.IsAcceptingJobs)	disable (~C.IsAcceptingJobs)	disable (~C.IsAcceptingJobs)	disable (~C.IsAcceptingJobs)
EnableScanService	error	enable (C.IsAcceptingJobs)	enable (C.IsAcceptingJobs)	enable (C.IsAcceptingJobs)	enable (C.IsAcceptingJobs)
PauseScanService	error	pause (C.Pause)	pause (Stopped, C.Pause)	pause (Stopped, C.Pause)	pause (C. Pause)
ResumeScanService	error	resume (~C.Pause)	resume (~C.Pause)	resume (~C.Pause)	resume (Idle, ~C.Pause)
RestartScanService (Note 1)	restart (Idle)	restart (Idle)	restart (Idle)	restart (Idle)	restart (Idle)
ShutdownScanService (Note 2)	error	shutdown (Down)	shutdown (Down)	shutdown (Down)	shutdown (Down)
StartupScanService (Note 1)	restart (Idle)	error	error	error	error

test (Note 3)	test (Testing)	test (Testing)	error	error	error
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1 **Table 1 Service State Machine (Operations)**

2 • **Review Table 3 Scan Service State Transition by Events**

- 3 ○ In ‘Down’ state –
- 4 ▪ The event E.critical sets the condition C.critical.
- 5 ▪ The event E.criticalCleared clear the condition C.critical (should
- 6 be denoted as ‘~C.critical).
- 7 ▪ The event E.endJob from a Shutdown condition is an internal state
- 8 error.
- 9 ○ An E.endJob event with a Shutdown condition pending in ‘Testing’ or
- 10 ‘Processing’ state will complete the current job in processing then perform
- 11 a Shutdown operation and transits to ‘Down’ state.
- 12 ○ An E.endJob event with a Pause condition pending in ‘Testing’ or
- 13 ‘Pending’ state will complete the current job in processing then perform a
- 14 Pause operation and transits to ‘Stopped’ state.
- 15 ○ For all other states, encountering an E.endJob event is an internal state
- 16 error.
- 17 ○ Add Note to say that the ‘error’ in State Transition by Operations are
- 18 ‘error response’, whereas in State Transition by Events are ‘internal state
- 19 error’.
- 20 ○ An E.warning event to all states sets C.Warning consition.
- 21 ○ An E.startJob event received in any state with a C.paused condition is an
- 22 internal state error. When the scheduler is stopped, it’s not possible to get
- 23 a startJob event.
- 24 ○ An E.startJob event received with a condition other than C.paused pending
- 25 will cause Schedule to schedule jobs in Testing, Idle, or Processing state,
- 26 and cause Idle to Processing transition. It’s an error for Down or Stopped
- 27 state.
- 28 ○ The event E.Testing received in ‘Down’ cause transition to ‘Testing’, and
- 29 in ‘Testing’ remains ‘Testing’. It’s an error when received in all other
- 30 states.
- 31 ○ The event E.testingCleared can only be received in ‘Testing’ state. It’s an
- 32 error when received in all other states.
- 33 ○ The corrected State Transition Table by Event is shown below:
- 34

SERVICE STATE MACHINE (Events)					
Input	State				
	Down	Testing	Idle	Processing	Stopped
Event (Condition)	Event or Condition (new state)	Event or Condition (new state)	Event or Condition (new state)	Event or Condition (new state)	Event or Condition (new state)

SERVICE STATE MACHINE (Events)					
Input	State				
	Down	Testing	Idle	Processing	Stopped
E.critical	C.critical	C.critical	C.critical (Stopped)	C.critical (Stopped)	C.critical
E.criticalCleared (Only if no other critical pending)	~C.critical	~C.critical	error	error	~C.critical (Idle or Processing)
E.endJob (C.shutdown)	Error Add note for internal state error	shutdown (Down)	error	shutdown (Down)	error
E.endJob (C.paused)	error	C.paused (Testing)	error	C.paused (Stopped)	error
E.endJob	error	(Testing)	error	schedule (Idle or Processing)	error
E. Warning	C.Warning	C.Warning	C.Warning	C.Warning	C.Warning
E. WarningCleared (Only if no other warning pending)	~C.Warning	~C.Warning	~C.Warning	~C.Warning	~C.Warning
E.Startup (Note 1)	restart (Idle)	error	error	error	error
E.startJob (C.paused)	error	error (Testing)	error	error	error
E.startJob	error	schedule (Testing)	schedule (Processing)	schedule	error
E.Testing (Note 3)	(Testing)	(Testing)	error	error	error
E.TestingCleared	error	(Down)	error	error	error

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Table 2 Service State Machine (Events)

- **Review Scan Service State Transition Diagram**
 - Changes from the previous version:
 - Unknown state was added.
 - Added transition from ‘Unknown’ through ‘Down’ to ‘Idle’ by Startup operation or event.
 - Added Note on Testing that says moving from or to Testing state is implementation specific.
 - **AI: Pete Zehler to make sure the diagram is consistent with the transition state tables, any inconsistency to be raised on the MFD email list, and to add a note for Testing, restart and transition to ‘Idle’.**

1 • **Review the Theory of Operation for Scan Service**

- 2 ○ Changes from the previous version:
- 3 ▪ Added a section that covers the lifecycle of the job itself with
- 4 description text that separates job states from service states.
- 5 ▪ **AI: Every one who hasn't done so please read the updated**
- 6 **Section 10 of the Scan Service specification (dated 20090213).**

7 **6. Review the Last Call Comments and Resolutions for Scan Service**

8 The file: <ftp://ftp.pwg.org/pub/pwg/wd/MFD-Scan-LastCallResolutionComments-20090213.pdf>

9 contains the latest update on comments and resolutions.

- 10 ○ The resolutions of “no change” :
- 11 ▪ ‘Units’ is an element name, ‘units’ is the normal units used for
- 12 measurement. Thus there is no change to make them consistent.
- 13 ▪ Inconsistent indentations of paragraphs are caused by auto-
- 14 formatting peculiarity by Word Style.
- 15 ▪ A lot of references in ‘Subunits’ refers to Section 6. These are
- 16 removed and replaced with added references to RFCs and the name
- 17 of the actual object in the MIB.
- 18 ▪ OutputChannel has a JobLanguage of type ‘Interpreter’. The
- 19 reason for that is in MIB, it’s an index to the Interpreter table,
- 20 therefore it’s manifested in XML Schema as an element of type
- 21 ‘Interpreter’. This is a copy of the row in that Interpreter table.
- 22 The same is true for OutputChannel, it points to the row of
- 23 Interface table.
- 24 ▪ ‘Interpreter’ was used to interpret ‘Control’ in paragraph 7.1.4.7, it
- 25 states that “Applicable to Scan Service for two purposes. One is to
- 26 indicate a control language associated with an output channel. The
- 27 other is to describe the formatting subunit for the output digital
- 28 document.” This new text needs to be fixed.
- 29 ○ **AI: Peter Zehler will fix paragraph 7.1.4.7 for**
- 30 **comments #20 & #21 regarding ‘Interpreter’.**
- 31

32 **7. Review MFD Working Group Last Call Comments and Resolutions for**

33 **Resource Service Specification ([ftp://ftp.pwg.org/pub/pwg/mfd/wd/wd-](ftp://ftp.pwg.org/pub/pwg/mfd/wd/wd-mfdresourcemodel10-20090213.pdf)**

34 **[mfdresourcemodel10-20090213.pdf](ftp://ftp.pwg.org/pub/pwg/mfd/wd/wd-mfdresourcemodel10-20090213.pdf))**

- 35 • The latest document for these comments and resolutions is:
- 36 [ftp://ftp.pwg.org/pub/pwg/mfd/wd/wg-comments-Resolutions-](ftp://ftp.pwg.org/pub/pwg/mfd/wd/wg-comments-Resolutions-mfdresourcemodel10-20090213.pdf)
- 37 [mfdresourcemodel10-20090213.pdf](ftp://ftp.pwg.org/pub/pwg/mfd/wd/wg-comments-Resolutions-mfdresourcemodel10-20090213.pdf)
- 38 • The state transition tables and diagram of Resource Service will be updated to
- 39 reflect the changes made in Scan Service for all MFD services in general.
- 40 ○ In Resource Service there is no ‘Stopped’ state, only ‘Down’, ‘Idle’,
- 41 ‘Processing’ and ‘Testing’.
- 42 ○ The ‘E.endwarning’ should be changed to ‘E.warningCleared’ to be
- 43 consistent with Scan Service.
- 44 ○ When an E.critical event received in Idle state, the service stays in ‘Idle
- 45 and still can accept resource requests, and may still be able to service the
- 46 requests depending in the critical condition – e.g. on an insufficient

1 storage space error the service won't be able to process requests that
2 require storage space, but the service still can process other informational
3 requests.

- 4 ○ There is an E.critical event in Idle state, no E.criticalCleared event which
5 should be added and the service stay in Idle state after the critical
6 condition is cleared, since there is no Job to stop, no 'Stopped' state in
7 Resource Service.
- 8 ○ Restart operation from 'Testing' to 'Idle' state was removed from the last
9 teleconference, but put back today with additional note.
- 10 ○ **AI: Nancy to update the state transition tables and diagram to be**
11 **consistent with the changes to Resource Service today.**
- 12 ● Last Call comments were reviewed. There were no further comments to the
13 resolutions.
- 14 ● Next Steps:
 - 15 ○ **Nancy to update the Resource Service spec. for another revision of**
16 **Prototype draft ready to review in the next MFD teleconference.**
 - 17 ○ **Determine whether PWG-wide Last Call for Comments can be**
18 **started in the next MFD teleconference.**
 - 19 ○ **The Last Call of Resource Service will have to span in the next PWG**
20 **face-to-face meeting per the PWG Process requirement.**

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22 **Feb. 17, Tuesday –**

23
24 **1. Attendees:**

25 Nancy Chen,	Okidata
26 Lee Farrell,	Canon
27 Ira McDonald*,	High North Inc.
28 Glen Petrie,	Epson
29 Ole Skov	MPI Tech
30 Jerry Thrasher,	Lexmark
31 Bill Wagner,	TIC
32 Dave Whitehead*,	Lexmark
33 Peter Zehler,	Xerox

34
35 *Phone-in attendee

36
37 **2. Introduction & PWG IP Policy :**

38 Peter Zehler, the MFD Working Group Chairman called the meeting in order.
39 Pete reminded attendees the PWG IP policy we need to comply. No objection.

40
41 **3. Minutes Taker Assigned : Nancy Chen**

42
43 **4. Agenda:**

44 1:00-1:15pm : Introductions, Assign Minute Taker(s)
45 1:15-2:15pm : Discussion of overall MFD
46 2:15-2:30pm : Break

1 2:30-5:00pm: Continuation of discussion of overall MFD

2 5:00-5:30pm: Next Steps

3
4 No objection to the proposed agenda.

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6 **5. Discussion of Overall MFD Model and Semantic Document**

7 (<ftp://ftp.pwg.org/pub/pwg/mfd/wd-mfdoverallmod10-20090214.pdf>)

- 8
- 9 • The working group consensus from the discussion on the email list is that the root
10 element of MFD is the Server. Within the Server there is a System that is parallel
11 to the rest of individual services.
 - 12 • Since Services are created at Startup, what in fact started the individual Services?
13 The System? Or the Server? The consensus from the previous teleconferences is it
14 has to be the System, since the Server has no other element. Since the elements
15 specific to System will not be discussed in individual Service documents, the
16 MFD Overall document might be a good place for describing the System.
 - 17 • Pete Zehler's view is the System is not very different from other services having
18 similar elements such as status, description, counters and other attributes. The
19 System is a rollup of all other services within the Server. We need a way
20 (methods) to communicate with the System element as a whole – e.g. to see the
21 usage of subunits by all services within the MFD, to start up all services, ..., etc.
22 at a system-wide scope.
 - 23 • Should the System be discussed in as container to be included in the Overall
24 document or in a separate document? Is the Overall document a document that
25 describes the common elements extracted from all MFD Services? Or does it also
26 include the description/definition of the System? If in fact all the common
27 elements are also the elements of the System, then there is no need for a separate
28 System document. The concern is the volume of the document with both included.
29 The goal is to have a common document so that the individual service document
30 can simply reference the common document without much duplication of the
31 same semantic details.
 - 32 • One opinion preferred to see overall architectural level information of the MFD in
33 the Overall document, and keeping much detailed System description in a
34 separate System document.
 - 35 • Definitions of Terms in Terminology is based on Scan Service terms generalized
36 for all services. New terms and changes will need to be added to Terminology as
37 we go in defining other services, even document service-specific terminologies –
38 goal is to have a complete glossary of all terms.
 - 39 • Section 2 (MFD Model Concept) might be a good overall executive document.
40 At conceptual level it describes MFD services, primary interfaces, jobs, document,
41 tickets, templates, general service sequences of operations, documents, regions,
42 images, job/document object and digital document cardinality, Coordinate
43 systems, job ticket lifecycle.
 - 44 • Comment: there should be description of subunits of the entire system so
45 that the individual service document only have to reference subunits
46 described here, and says the subunits in each service is an service specific
view of the subunits.

- 1 ○ **AI: Bill Wagner to add subunits descriptions in Section 2.**
- 2 • Discussion of Primary Interfaces:
 - 3 ○ Primary Service is used to distinguish those job-related services
 - 4 from Resource Service. Job Service or Job-related Service is used
 - 5 in Resource Service.
 - 6 ○ Primary Interface diagram should add a note to state that any other
 - 7 service can include a Resource Service Client.
 - 8 ○ The Primary Interface diagram identifies all MFD services in a
 - 9 shaded rectangle at the center, and related data path (all are job-
 - 10 related data except for Resource Service) to and from the services.
 - 11 ○ Currently the System does not have a queue that collects all jobs
 - 12 across all services in the MFD. Each Service has its individual job
 - 13 queues. Is there any advantage to expose the system wise job pool?
 - 14 There seems a need to be able to delete a job or hold a job across
 - 15 all the services at the system level. If there is such a need, how
 - 16 should jobs be ordered in the system wide queue? There seems a
 - 17 need to facilitate an external scheduler at the workflow level to
 - 18 see/resolve the interdependency and priority of jobs in the services
 - 19 in order to support the workflow applications. The complexity
 - 20 involved in defining this external interface at system level
 - 21 suggested that it's not appropriate to define this at the system level;
 - 22 that should be left as implementation specific. What we should be
 - 23 concerned with is what external interfaces are still missing in each
 - 24 basic service that have not addressed these issues at workflow level.
 - 25 But we do not want to define an internal system scheduler to
 - 26 dictate how a workflow above should be written.
 - 27 ▪ **AI: Nancy to identify examples of the missing interfaces**
 - 28 **in basic services required to allow the external**
 - 29 **workflow level scheduler to resolve the issue of job**
 - 30 **priority and interdependence of jobs across services.**
 - 31 ○ After some discussion, we agreed that it's conceivable that there is
 - 32 a need for providing standard interfaces to the system that allow
 - 33 querying information (e.g. counters) across all services, start up
 - 34 and shut down all services.
- 35 • Overall view of the MFD and diagram (Fig. 2) – should we include
- 36 System in the diagram? Should this diagram culled from Scan Service be
- 37 used as an example service in the diagram? Should we change the Scan
- 38 Service to a general service in the diagram? Consensuses:
 - 39 ○ Change Scan Service to be a general service. Use only first order
 - 40 objects in the diagram that are common to all services, not include
 - 41 any service-specific objects in one diagram at the left, and another
 - 42 diagram at the right to show the second order objects subordinate
 - 43 to the objects on the left.
 - 44 ○ The MFD diagram should have a System in the middle, top-level
 - 45 services to one side and subunits to the other side. The system can
 - 46 be expanded to show all the rollup counters and other attributes.

1 The top-level service diagram should show the general service
2 with jobs, documents, and other main elements.

- 3 ○ **AI: Peter Zehler to provide the new MFD diagram for Figure 2**
4 **to Bill Wagner to be included in the Overall MFD document.**

- 5 ● Discussion of Jobs, Documents, Tickets, and Templates
 - 6 ○ We need add a Template relationship diagram to Ticket Lifecycle
7 here.
 - 8 ● Discussion of General Service Sequence of Operation
 - 9 ○ The service state diagram needs to be generalized for all services.
10 Some paths may not exist for Resource Service.
 - 11 ○ Description text needs to be aligned with the recent changes to
12 Scan Service.
 - 13 ○ **AI: Peter Zehler to send updated diagram to Bill Wagner.**
 - 14 ● Discussion of Document, Regions, and Images
 - 15 ○ Question: The Schema identifies a CopyRegion. Is this the same as
16 a scan region, to be described together, or does this require a
17 separate description? Is there a "PrintRegion" (not in Schema)
 - 18 ■ Scan region is the same as Copy region. The Schema of the
19 CopyRegion should be the same as ScanRegion.
 - 20 ■ It is conceivable that a portion of the full print region can
21 be extracted externally, then print with or without scaling,
22 just like what can be done in Scan. However, print region
23 does not exist in IPP. Only the print device has a printable
24 area. In MFD, for consistency with IPP, we will define a
25 Transform service that can take the print region and
26 transform it into whatever the user desired for printing.
 - 27 ● Discussion of Job/Document Object and Digital Document Cardinality
 - 28 ○ QUESTION: Do we need to also discuss this relationship for
29 hardcopy output services, such as Print, where multiple files
30 corresponding to multiple documents can be submitted and printed
31 as one job?
 - 32 ■ In print, there are multiple document jobs, but there is no
33 concept of multi-file document (from different URLs) as
34 input. There is only one URL for the input document.
35 There is one operation to add document to the print stream.
36 But SDMF and MDMF do not exist in printing. If such is
37 desired, the frontend process needs to split the single output
38 into different files and send them off to different printers.
 - 39 ■ This section is applicable to Scan/Transform only and any
40 service that dealing with digital output of course. There is a
41 document and job object cardinality that applies to print.
42 Documents are ordered sequentially in print. FaxIn always
43 input one single document.
 - 44 ● Discussion of Coordinate System

- 1 ○ QUESTION: Are not Scan and Print Subunit coordinate systems
- 2 the same? Is there commonality among the different Service
- 3 coordinate systems, to justify being discussed here?
- 4 ▪ IPP always assumes Portrait orientation, has X and Y axis,
- 5 and offset. Fast Scan direction is always assumed Portrait
- 6 (short edge feed).
- 7 ▪ Subunits coordinate apply to Print (marker) and Scan
- 8 (scanner).
- 9 ○ Question: Are not Print Service co-ordinates the same as Scan
- 10 Service? Should this be expanded to address the Digital Document
- 11 formats for all Services?
- 12 ▪ Print service coordinate corresponds to marker coordinate.
- 13 Marker knows about short edge feed, but the print service
- 14 always assumes Portrait (X); in Scan service it depends on
- 15 which way the user put the paper on the tray. Print service
- 16 only knows the offset; it's implementation specific to
- 17 decide how to print the document with the (X, Y) offset
- 18 (the X and Y shift of the image) and position the image
- 19 (center, left/right justification, scaling) within the region
- 20 based on PDL. The Scan is the same without the
- 21 positioning (center, justification, scaling). The common
- 22 elements are offset, and region.
- 23 ○ Question: Can Document Format Coordinate be generalized for all
- 24 external document formats?
- 25 ▪ Document Format Coordinate is only applicable with
- 26 device that produces digital output document. This is for
- 27 PDL that has media box, this define how to place the
- 28 document image within the media box. Not all document
- 29 formats have a media box, PDF has but not TIFF.
- 30 ▪ At this point we have not defined other services than Print
- 31 and Scan, this section will need to be expanded to cover
- 32 other services to be defined in the future.
- 33 • Discussion of Jobs and Job Ticket Lifecycle
- 34 ○ Question: To what extent might this apply to transform and FaxIn
- 35 services?
- 36 ▪ In FaxIn, when fax modem received FaxIn data, a FaxIn
- 37 job is not created yet. It's conceivable that there can be
- 38 different default job tickets associated with different types
- 39 of FaxIn data (e.g received from different phone numbers)
- 40 that may require different route of the received fax data.
- 41 However it's unclear whether the routing rule should
- 42 belong to the configuration of the service or be part of the
- 43 ticket. The client of FaxIn service is the modem subunit,
- 44 not a real user client or the phone sending the fax. It seems
- 45 that there is no mechanism that allows a FaxIn client to

1 create a job ticket, the job ticket comes from the FaxIn
2 service itself.

- 3 ▪ Obviously Scan Jobs and Job Ticket lifecycle in this
4 section apply to Transform service, but it's still a question
5 whether it applies to FaxIn Service (not configured by an
6 end user or client) at this point of time.
- 7 ○ Question: do we need a more generalized ticket lifecycle diagram ?
8 ▪ It is a generalized diagram if simply changes Scan to
9 Service.
- 10 ▪ **AI: Peter Zehler to remove data from the diagram and**
11 **change 'Scan' to 'Service' in Figure 9, and send it to Bill**
12 **Wagner.**
- 13 ○ Question: The previous discussion goes into process cycle as well
14 as relationships. Should a process flow diagram (such as the one in
15 the original overall discussion, but corrected) be used for its
16 discussion?
 - 17 ▪ This will require more thoughts.
- 18 • Discussion of Service Model Description:
 - 19 • Question: Should there be a System Model Description? If so, as a
20 separate chapter, a starting section to this chapter, or in the previous
21 "Concepts" chapter?
 - 22 ○ This question is left open for now until we decide whether we
23 should have a separate document for the System.
 - 24 • As Peter Zehler suggested, the descriptions of subunits in the section
25 should be moved to the previous "Concepts" chapter. The description of
26 the subunits should be in great detail and has links to the MIB specs where
27 these detailed descriptions originated.
 - 28 ○ QUESTION: Would it be better to describe the constituent
29 elements in paragraphs as follows or in a table per complex
30 element?
 - 31 ▪ It's better to use table with normative reference to where
32 the description originated.
 - 33 ▪ The individual services only need to list the subunits that
34 apply to the service and provide reference to the Overall
35 document for better descriptions, from which you can get
36 the original detailed descriptions of the subunits from the
37 references.
 - 38 ▪ In the individual Service Configuration, only states that it's
39 a service specific view of the subunits used by the service.
- 40 • Discussion of Service Capabilities:
 - 41 • Question: Should only the top-level elements be listed, or should the
42 constituent elements also be listed with text or simply show them in the
43 Schema diagram?
 - 44 ○ They should all be listed in a table. Keep separate tables, one for
45 service capabilities, one for job ticket, because some names of the
46 elements are the same, but have different types and values.

- 1 • Document and Job Processing Capabilities:
 - 2 ○ Should all capabilities elements for all services be listed in one
 - 3 table, each element is marked with applicable individual services?
 - 4 ▪ One issue is that some of them are unknown till the service
 - 5 is defined.
- 6 • Discussion of Service Status:
 - 7 • The section needs to realign with the new Scan Service state transitions.
 - 8 • State reasons can be generated from the WellKnownValues in the Schema,
 - 9 StateReasons WellKnownValues, StateReasons2 WellKnownValues,
 - 10 StateReasonsSubunits WellKnownValues in the file
 - 11 PWGWellKnownValues.xsd.
- 12 • Discussion of Document Processing:
 - 13 • Question: Is it OK to just reference corresponding elements in Service
 - 14 Capabilities (with note on type)
 - 15 ○ This is OK, although currently there is no default defined for each
 - 16 element in the XML Schema.
- 17 • Job Description elements will also be listed in a table with type, descriptions, etc.
- 18 • Document Model will be done in the same as Job Description.
- 19 • Discussion of Service Interfaces:
 - 20 • Question: Should Operations description to text or tabular (Both?)
 - 21 ○ Both.
 - 22 • Question: Should we identify the arguments in each request and response?
 - 23 ○ We should have general description for each operation. Elements
 - 24 required for one operation in a service may not be applicable to
 - 25 another service. For example, CreateJob will create different jobs
 - 26 in different services and will require different arguments in
 - 27 different services, but the function of creating a job is the same.
 - 28 ○ Parameters for Operations are very specific to the individual
 - 29 services. But the goal for the same operation is to have common
 - 30 semantics for all services. Therefore just having a general
 - 31 description for each operation here is sufficient. Though it's
 - 32 conceivable that for CancelJob operation there is a need for JobId
 - 33 parameter for each service.
 - 34 ○ The table will be kept open for request and response parameters to
 - 35 be filled in the future when they are found general enough across
 - 36 all services.

37 **6. Next Steps**

- 38 • Publish a new version of the Scan Service specification with updates from
- 39 yesterday meeting.
- 40 • Obtain the formal PWG member vote on the updated Scan Service specification
- 41 within a week after publication.
- 42 • Another Prototype draft version for Resource Service will be published.
- 43 • Plan to have the PWG wide Last Call for Comment on the updated Prototype
- 44 Resource Service specification that straddles the PWG April face-to-face meeting.

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- We already have a very good straw-man document for the MFD Overall document. Will continue to work on this document during future teleconferences. The MFD Overall document may need to be at least a candidate standard in order for individual services to reference as a normative reference. The title of this overall document is still to be determined.
- FaxOut service has lower priority now because it needs to reference the MFD Overall document.
- The next teleconference is March 12, 2009, 3pm EDT.