

A Grammar and Parser for Recognition of Documentary Forms and Metadata Extraction

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Technical Report ITTL/CSITD 09-06

September 2009 (Revised October 2010)

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Research was sponsored by The Army Research Laboratory (ARL) and The National Archives Center for Advanced Systems and Technologies (NCAST) and was accomplished under Cooperative Agreement Numbers W911NF-06-2-0050 and W911NF-10-2-0030. The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the official policies, either expressed or implied, of the Army Research Laboratory, NCAST, or the US Government. The U.S. government is authorized to reproduce and distribute reprints for Government purposes notwithstanding any copyright notation heron.

ABSTRACT

A method for automatic document type recognition and metadata extraction has been implemented and successfully tested. The method is based on the method for automatically annotating semantic categories such as person's names, dates, and postal addresses. It extends this method by: (1) identifying about 100 types of intellectual elements of documents, (2) parsing these elements using context-free grammars defining the documentary form of document types, (3) interpreting the pragmatics of the form of the document to identify some or all of the following metadata: the chronological date, author(s), addressee(s), and topic. This metadata can be used for indexing and searching collections of records by person, organization and location names, topics, dates, author's and addressee's names and document types. It can also be used for automatically describing items, file units and record series.

Keywords: archival description, documentary form, metadata extraction, computational linguistics

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1. Introduction

1.1 Background

The names of documentary forms, such as correspondence, memoranda or agenda, are key elements of archival descriptions. National standards [Describing Archives 2004] and institutional guidelines [NARA 2002] for describing archives prescribe that names of documentary forms be included in scope and content notes of record series and file units and in titles of items.

Archival description includes the identification of access points, "a name, term, phrase, or code that is used to search, identify, or locate a record, file, or document" [NARA 2002]. NARA's Lifecycle Data Requirements Guide specifies guidelines for creating access points for records, for example, date, author, addressee, topic, and special record type (documentary form). Due to the increasing volume of records acquired by NARA and the limited human resources that can be applied to archival description, the problem arises that it may be decades or even centuries before acquisitions are manually reviewed and described in sufficient detail to be reliably retrieved with reasonable precision and recall. Since an increasing number of accessioned records are digital records, a capability to automatically recognize documentary form and to extract metadata from these records would enable the automatic indexing of records for earlier access.

In previous research, context-free grammars were developed for nine documentary forms occurring in the records of the Presidential Administration of George H. W. Bush [Underwood and Laib 2008]. It was demonstrated how these grammars could be used with a parser to recognize the documentary forms of a record of each of these forms.

1.2 Purpose

The grammars and the documentary form recognizer developed in previous research demonstrated the feasibility of a method for recognition of documentary forms. However, the method was only demonstrated on one example for each documentary form. The purpose of this report is to describe

- the extension of the grammars to the recognition of a larger sample of the documentary forms,
- the grammars for additional documentary forms, and
- the interface of the documentary form recognizer to PERPOS, the prototype system for processing of presidential e-records.

1.3 Scope

In section 2, the grammar-based method for recognizing documentary forms and extracting metadata is described. In section 3, the intellectual elements of fourteen

documentary forms are enumerated. In section 4, an attribute-value context-free grammar for fourteen documentary forms is described. In section 5, the interface of the Documentary Form Recognizer to PERPOS is described. In section 6, the results of a test are described in which manually constructed grammars for documentary forms are used to automatically recognize document types of Presidential e-records. In section 7, the results of this research are summarized.

2. The Method

A method for recognition of documentary form and extraction of metadata has been implemented [Underwood and Laib 2008]. Its major steps are shown below. The method is an extension of a method for annotating semantic categories (named-entities) such as person's names, dates, and postal addresses that occur in textual documents [Underwood and Isbell 2008]. The extensions are indicated by italics.

```
Tokenizer
Wordlist Lookup + Wordlists
Sentence splitter
Hepple POS Tagger + Lexicon
Named Entity Transducer + Rules for Named Entities
Intellectual Element Transducer + intellectual Element Rules
SUPPLE Parser + Document Type Grammars
Extract Record Metadata
```

The intellectual Element Transducer uses JAPE (Java Annotation Pattern Engine) rules to recognize and annotate the intellectual elements of a variety of document types. The intellectual elements are currently recognized in several phases. First, the key terms or phrases that compose intellectual elements are annotated. Figure 1 shows a JAPE rule for recognizing the intellectual element called *to*, the addressee caption of a memorandum.

```
//MEMORANDUM FOR -> TO
//TO: -> TO

Rule: TO
( (
    (Token.string == "MEMORANDUM")
    (Token.string == "FOR") ) |
    (
    (Token.string == "MEMORANDUM")
    (Token.string == "TO") ) |
    (
    (Token.string == "TO") ) |
    (
    (Token.string.string == "TO")
    (Token.string == ":")
    ))
: to
-->
    :to.PossElement = (eletype = "to")
```

Figure 1. JAPE Rule for the intellectual element "to"

In the remaining phases, additional intellectual elements are annotated based on named entities recognized by the named-Entity Transducer and on annotations created during the earlier phases of the intellectual Element Transducer. The Intellectual Element Transducer currently annotates about 100 kinds of intellectual elements that may occur in fourteen documentary forms of Bush Presidential records.

The SUPPLE Parser is a bottom-up chart parser that uses a context-free grammar for English to parse a sequence of word tokens (with their parts of speech) and named entities (usually proper nouns) in a sentence [Gaizauskas et al 2005]. To recognize the documentary form of an e-record, SUPPLE is provided with context-free grammars for documentary forms and a sequence of intellectual elements from the document.

Figure 2 shows an example of a White House memorandum. Memoranda such as this were printed on White House stationery. The electronic copies of memoranda typically did not contain a letterhead, but in some cases a letterhead was typed at the top of the memorandum.

April 27, 1992

MEMORANDUM FOR SAM SKINNER

FROM: EDE HOLIDAY

SUBJECT: California Earthquake

Attached is a situation report from FEMA on the northern California earthquake. No deaths have been reported and 45 people are known to have suffered injuries. In addition, there has been extensive property damage. While FEMA is awaiting a request from the State before initiating any recovery activities, a joint State/Federal preliminary damage assessment is likely to begin today.

Director Stickney has requested that we forward the situation report to you.

Attachments

Figure 2. An example of a White House Memorandum

The context-free grammar shown in Figure 3 defines the documentary form of the memo shown in Fig. 2 as well as the forms of other memoranda in the Bush e-record collection.

¹ Bush Presidential Library, Bush Presidential Records, WHORM Subject File, Disasters-Natural, ID#324869.

```
MEMO → MEMOHEAD BODY | MEMOHEAD THRU BODY | MEMOHEAD BODY OPTIONAL
               | MEMOHEAD THRU BODY OPTIONAL
MEMOHEAD → CHRONDATE ADDRLINE SNDRLINE SUBJLINE
               | CHRONDATE ADDRLINE THRULINE SNDRLINE SUBJLINE
               | CHRONDATE ADDRLINE SNDRLINE SUBJLINE ULINE
               | CHRONDATE ADDRLINE THRULINE SNDRLINE SUBJLINE ULINE
ADDRLINE → FOR ENTITIES
THRULINE → THRU ENTITY
SNDRLINE → FROM ENTITIES
SUBJLINE → SUBJ TOPIC | REFLINE
BODY → PARAS | SECTION PARA | PARA
PARAS → PARAS SECTION PARA | PARAS PARA | SECTION PARA SECTION PARA
               | SECTION PARA PARA | PARA SECTION PARA | PARA PARA
SECTION PARA → SECTION TITLE PARA
OPTIONAL → REFINITIALS ENCLOSURE CCLIST BCCLIST POSTSCRIPT
               I REFINITIALS ENCLOSURE CCLIST BCCLIST
               | REFINITIALS ENCLOSURE CCLIST POSTSCRIPT
               | REFINITIALS ENCLOSURE CCLIST
               | REFINITIALS ENCLOSURE BCCLIST POSTSCRIPT
               | REFINITIALS ENCLOSURE BCCLIST
               | REFINITIALS ENCLOSURE POSTSCRIPT
               | REFINITIALS ENCLOSURE
               | REFINITIALS CCLIST BCCLIST POSTSCRIPT
               | REFINITIALS CCLIST BCCLIST
               | REFINITIALS CCLIST POSTSCRIPT
               | REFINITIALS CCLIST
               | REFINITIALS BCCLIST POSTSCRIPT
               | REFINITIALS BCCLIST
               | REFINITIALS POSTSCRIPT
               I REFINITIALS
               | ENCLOSURE CCLIST BCCLIST POSTSCRIPT
               | ENCLOSURE CCLIST BCCLIST
               | ENCLOSURE CCLIST POSTSCRIPT
               I ENCLOSURE CCLIST
               | ENCLOSURE BCCLIST POSTSCRIPT
               | ENCLOSURE BCCLIST
               | ENCLOSURE POSTSCRIPT
               | ENCLOSURE
               | ATTACHMENT CCLIST BCCLIST
               | ATTACHMENT BCCLIST
               | ATTACHMENT CCLIST
               | ATTACHMENT
               | CCLIST BCCLIST POSTSCRIPT
               | CCLIST BCCLIST
               | CCLIST POSTSCRIPT
               | CCLIST
               | BCCLIST POSTSCRIPT | BCCLIST | POSTSCRIPT
CCLIST → CARBON COPY ENTITIES
BCCLIST → BCC ENTITIES
```

Figure 3. A context-free grammar for the documentary form of Memoranda

This and other context-free grammars for document types are translated into the notation used by the SUPPLE parser and semantic notations are added to the rules to enable the interpretation of the text appearing in the intellectual elements. Figure 4 shows an example of rules of the augmented grammar for memoranda.

```
%% MEMO → HEAD BODY
rule(memo(s_form:F,sem:D^[[document,D],[document_form,D,memo],
[author,D,SNDRList],[addressee,D,AddrList],[topic,D,TOPIC],
[date,D,DATE]]),
  [head(s_form:F,sem:[DATE,AddrList,AuthorList,TOPIC]),
  body(s_form:F)]).

%% HEAD → DATE ADDRLINE SNDRLINE SUBJLINE
rule(head(s_form:F,sem:[Date,ADDRList,SNDRList,TOPIC]),
  [chrondate(s_form:F,date:DATE),
  addrline(s_form:F,sem:AddrList),
  sndrline(s_form:F,sem:SNDRList),
  subjline(s_form:F,topic:TOPIC)]).
```

Figure 4. A fragment of the SUPPLE grammar for the documentary form of Memoranda

Figure 5 shows the parse tree of the structure of the document shown in Fig. 5 as recognized by the SUPPLE parser.

```
{best parse=
(memo (head (chrondate (sem cat "April 27, 1992"))
            (addrline (for (sem cat "MEMORANDUM FOR"))
                  (entities (entity (person (sem cat "SAM SKINNER")))))
            (sndrline (from (sem cat "FROM:"))
                  (entities (entity (person (sem cat "EDE HOLIDAY")))))
            (subjline (subj (sem cat "SUBJECT:"))
                  (topic (sem cat "California Earthquake"))))
      (body (paras (para
            (sem cat "Attached is a situation report from FEMA on the
           northern California earthquake. No deaths have been
           reported and 45 people are known to have suffered injuries.
           In addition, there has been extensive property damage.
           While FEMA is awaiting a request from the State
           before initiating any recovery activities, a joint
           State/Federal preliminary damage assessment is likely to
           begin today."))
           paras (para
            (sem cat "Director Stickney has requested that we forward
           the situation report to you.")))))
      (optional (attachment (sem cat "Attachments")))))
```

Figure 5. The documentary form (parse tree) of the sample Memorandum

Figure 6 shows the pragmatics of the memorandum in a quasi-logical form (qlf). This also represents the metadata of the memoranda that are needed for describing the erecord.

Figure 6. The pragmatics of the sample White House Memorandum

This logical notation is read as "e1 is a document," "The documentary form of e1 is memo," the author of e1 is EDE HOLIDAY," etc.

From the metadata shown in Fig. 6, the following item description can be automatically generated.

A memorandum dated April 27, 1992 from Ede Holiday to Sam Skinner regarding California Earthquake.

Suppose that there was a directory in *Edith E. Holiday's Files* titled *Petrolia, Calif. (Cape Mendocino) Earthquake.* The following file unit (directory, folder) description can be automatically generated from the descriptions of items in directory.

This file unit contains materials relating to the 1992 Petrolia, California Earthquake. It includes memoranda, situation reports and correspondence.

3. Intellectual Elements of Documentary Form

The intellectual Element Transducer is a multi-phase transducer consisting of Java Annotation Pattern Engine (JAPE) rules. The rules identify some of the annotations created by the Named-Entity Transducer as intellectual elements of documentary forms and annotate them as elements. It also identifies and annotates additional intellectual elements. Figure 7 shows the ninety-six intellectual elements currently recognized by the Intellectual Element Transducer.

Intellectual Element	Example or Pattern
ACTION	Text "Action" or "ACTION"
ACTION_REQUESTED	Text "ACTION REQUESTED:"
ADDRESS	Example:
	119 E. Court Sq.
	Decatur, GA 30030
APPROVE	Text "Approve"
APPROVEASAMENDED	Text "Approve as amended"
ATTACHMENT	Text "Attachment" or "Attachments" optionally followed by a
	number
BCKGRND	Text ending with "DECISION" followed by a blank line
BCC	Text "bcc:"
BY_PRESIDENT	Text "BY THE PRESIDENT OF THE UNITED STATES OF
	AMERICA"

Intellectual Element	Example or Pattern
СС	Text "cc" or "cc:" or "Copies to" or "Copy to"
CHRONDATE	A date that occurs near the top of a document or in special cases
	at the bottom. Normally, this date is not embedded in the body of
	the document.
CLASSABBR	Text "(C)" or "(S)" or "(TS)" or "(U)"
CLASSIFICATION	Text "CONFIDENTIAL" or "UNCLASSIFIED" or "SECRET" or
	"TOP SECRET"
CONV_LOCATION	Text following "AND PLACE:"
DASHES	Two or more dashes ""
DATE_OF_SUBMISSION	Text "DATE OF SUBMISSION:"
DATED	Text "DATED"
DATETIME	Text "DATE, TIME"
DECISION	Text ending with "BACKGROUND/ANALYSIS" or "BACKGROUND
	ANALYSIS" followed by a blank line
DECLASS_INSTR	Text following "Declassify on:"
DECLASSIFYON	Text "Declassify on:"
DISCTOPICS	Text "TOPICS OF DISCUSSION:"
DOCDATE	A date that is embedded in the body of the document. An ex: "May
	1, 1981"
DOCTYPE	Text between "MEDIA:" and the next comma
	The text is in all caps.
DOI	Text "DESCRIPTION OF INCOMING:"
DTC	Text "DATE TO CALL:"
DURATION	An ex: "9:00 am – 1:00 pm"
ENCLOSURE	Text "Enc." or "Enclosure" or "Enclosures"
	Any one of the above may be followed by a number.
ENDS	Text "# # #"
EO_AUTHORITY_PARA	A paragraph that starts with "By the authority vested in me as
	President"
EOC	Text " End of Conversation –" or " End of conversation –" or "-
	End of Conversation -" or "- End of conversation -" or
	"(End of Conversation)" or "(End of conversation)"
EOID	Text "Executive Order" or "EXECUTIVE ORDER"
	Either one of the above many be followed by a number
EOTITLE	Text that follows the EOID
EVENT	Text ending with "ACTION-FORCING EVENT" followed by a blank
	line
FIR	Text "For Immediate Release"
FORMULA_OF_ADDRESS	Text "Dear"
FORMULA_OF_RESPECT	Text "All Best," or "Devotedly," or "My respects and sincere
	regards, sincerely," or "Respectfully," or "Sincerely," or "Sincerely
	yours," or "Warmly," or "With best regards," or "With best regards,
	Sincerely," or "With best wishes," or "With best wishes, Sincerely,"
	or "With kind regards,"
FROM	Text "FROM:"
HOME	Text "Home:"
ID	Text "ID:"
IN_WITNESS_WHEREOF	Text "IN WITNESS WHEREOF, I have hereunto set my hand this"
INDEPENDENCE	Text "and of the Independence of the United States of America
	the"
IN_YEAR	Text "in the year of our Lord"
JOBTITLE	Ex: "Secretary of Defense"
JOBTITLES	A JOBTITLE followed by "and" followed by a second JOBTILE

Intellectual Element	Example or Pattern
MEDIA	Text "MEDIA:"
MINUTESHDG	Text "MINUTES OF THE CABINET MEETING"
MOC	Text "MEMORANDUM OF CONVERSATION:"
MOTC	Text "MEMORANDUM OF TELEPHONE CONVERSATION:"
NOACTION	Text "No action"
NSD	Text "NATIONAL SECURITY DIRECTIVE" followed by a number
NSR	Text "NATIONAL SECURITY REVIEW" or ""NATIONAL
	SECURITY REVIEW-" followed by a number
NTI	Text "NOW THEREFORE, I," followed by a person
NUMBER	Ordinal Number - Ex: two hundred and sixteenth
OFFICE	Text "Office:"
OFFICE_PRESS_SECY	Text "Office of the Press Secretary"
ORGANIZATION	Ex: Department of Defense, Department of State, or Small
OKC/MIZ/MION	Business Administration
	The case of the text does not matter.
PARA	Paragraph - A sequence of 1 or more lines ending with
174474	punctuation and two CRLFs
PARTICIPANTS	Text "PARTICIPANTS:"
PDNO	Text "Presidential Determination No."
PERSON	Ex. Mary Smith, The President, or The Secretary of Defense
PHONENO	Ex: (404) 555-1212 or 404-555-1212
PLACE	Text "AND PLACE:"
POSTSCRIPT	Text "PS" or "P.S."
PRBODY	All the text following "For Immediate Release" and a chrondate
PRBODT	and an option prheadline to either "# # #" or the end of the
	document
PRHEADLINE	Text following "For Immediate Release" and a chrondate that does
PRHEADLINE	not end in punctuation
PROC_FORMULA	Proclamation Formula - A combination of previously defined
FROC_FORMULA	elements in a special order.
	Elements: in_witness_whereof docdate, inyear docdate,
	independence number
	Example: IN WITNESS WHEREOF, I have hereunto set my hand
	this twenty-third day of December, in the year of our Lord nineteen
	hundred and ninety-one, and of the Independence of the United
	States of America the two hundred and sixteenth.
PROCLAMATION	Text "A PROCLAMATION"
PROCLAMATION TITLE	Phase preceding the foolowing previously defined elements:
TROOL/WIJATION_TITLE	dashes followed by by_president followed by proclamation.
	The dashes are optional and sometimes the proclamation comes
	before the by_president element.
	Example: NATIONAL ELLIS ISLAND DAY, 1992
	BY THE PRESIDENT OF THE UNITED STATES OF AMERICA
	A PROCLAMATION
PROMPT_ACTION_PARA	Text ""PROMPT ACTION IS IF REQUIRED ACTION HAS NOT
	BEEN TAKEN WITHIN 9 WORKING DAYS OF RECEIPT,
	PLEASE TELEPHONE THE UNDERSIGNED AT 456- 7486."
PURPOSE	Text "PURPOSE:"
PURPOSE_PARA	Text following "PURPOSE:"
RCMD	Text ending with "RECOMMENDATION" followed by a blank line
RCMDBY	Text "RECOMMENDED BY:"
RCMDTELECALL	Text "Recommended Telephone Call"
NOWDIELECALL	rext recommended relephone Call

Intellectual Element	Example or Pattern
REFERENCE	Text "RE:"
REFERRAL	Text "REFERRAL"
REFERS_TO	Text following "RE:"
REFINITIALS	Initials of Typist or Signer Typist or Signer Writer Typist following
	formula_of_respect, person and optionally jobtitle
	Ex: clm
	PS/clm
	PS/SLL/clm
	PS:clm
	PS:SLL:clm
REJECT	Text "Reject"
REQUESTED_ACTION	Text following the previously defined action_requested element
RETURN_TO	Text "RETURN CORRESPONDENCE, WORKSHEET AND COPY
	OF RESPONSE (OR DRAFT) TO: AGENCY LIAISON, ROOM 91,
	THE WHITE HOUSE, 20500"
ROLE	Text "Interpreter:", "(Interpreter)", "(interpreter)", "Notetaker:",
	"(Notetaker)", or "(notetaker)"
SALUTATION	Previously defined formula_of_address followed by a person's
	name and either ":" or ","
SECTIONTITLE	A paragraph not ending in a punctuation following the previously
	defined elements SectionTitle, TOPIC, refers_to, para, or
00541/50	classabbr
SPEAKER	A person followed by a ":" at the beginning of a paragraph
SPEAKERPARA	A paragraph that starts with a speaker
SUBJ	Text "SUBJECT:"
TELEPHONE	Text "TELEPHONE:"
THE_WHITE_HOUSE	Text "THE WHITE HOUSE"
THRU	Text "THROUGH:" or "THRU:"
ТО	Text "MEMORANDUM FOR", "MEMORANDUM TO", or "TO:"
TOPIC	Text following "SUBJECT:"
TWH	Text "The White House"
ULINE	Text containing one of more "_" characters
WHOFFICE	Text "THE WHITE HOUSE OFFICE"

Figure 7. Intellectual Elements of Documentary Form

4. A Grammar for Recognizing and Interpreting Documentary Forms

The Sheffield University Prolog Parser for Language Engineering (SUPPLE) provided with GATE is a bottom-up chart parser. The English grammar for sentences that is provided with SUPPLE is a context-free attribute grammar. As SUPPLE parses a sentence, it uses this grammar to construct a parse trees tree for the sentence and a logical representation of the meaning of the sentence.

The semantics of context-free attribute grammars is described as follows [Gaizauskas et al 2005]: "The semantic representation of a sentence is constructed *compositionally* from the semantics of the sentence's constituents when the syntactic analysis takes place. Each

noun phrase and each verb phrase in the sentence leads to the introduction of a unique identifier, e_k , which is used as a representation of the "entity" or "event" referred to by the noun/verb phrase. The semantics of a sentence is a conjunction of unary and binary predicates represented as a list of Prolog terms. We refer to this representation as a simplified quasi-logical form, or SQLF."

The SUPPLE parser is written in Prolog and uses a GATE wrapper to run inside GATE. SUPPLE uses a layered chart parsing architecture. The set of rules at the first level is used to parse the input from the document. When the chart parsing algorithm has applied the rules in a layer, the resulting best-parses from that layer, along with the best-parses from any previous layers, become the input to the next layer. This continues until all layers have been parsed. Each layer has a set of best-parse categories specified or simply the word *all* is specified. These best-parse categories define what is passed on to the next layer.

The GATE wrapper requires two configuration files to create the initial chart for the SUPPLE chart parser. This chart is the representation of what is to be parsed and is the input for the first layer.

The original SUPPLE wrapper used the sentence annotation to collect the information used in creating the initial chart. The Supple wrapper has been modified to use a parameter to pass the name of the annotation type to be used for collecting the information necessary to create the initial chart. The annotation used to identify the documentary form of a document is the *Documentum* annotation.

4.1 Configuration Files

The SUPPLE wrapper uses this file to create SUPPLE categories and set features corresponding to the associated GATE annotation features. In this file, a "%" is used to specify a comment and "&" is used to specify a variable. Using "&" allows the value of the string feature of the GATE annotation to be passed to the SUPPLE category as the value of its text and name features. The SUPPLE wrapper matches the specified annotation type and any features whose value is not a variable to create the SUPPLE categories used in the initial chart.

Shown below are few of the entries in the mapping.config file that is used to parse the intellectual elements of documents.

% ADDRESS %
Gate;AnnotationType=Element;eletype=address;string=&S
SUPPLE;category=sem_cat;type=Address;text=&S;kind=address;name=&S
% CHRONDATE %
Gate;AnnotationType=Element;eletype=chrondate;string=&S
SUPPLE;category=sem_cat;type=Chrondate;text=&S;kind=date;name=&S

% FORMULA_OF_RESPECT %

Gate; AnnotationType=Element; eletype=formula_of_respect; string=&S

 $SUPPLE; category = sem_cat; type = Formula_Of_Respect; text = \&S; kind = formula_of_respect; name = \&S$

% PARA %

Gate; Annotation Type=Element; eletype=para; string=&S

SUPPLE; category=sem cat; type=Para; text=&S; kind=para; name=&S

% PERSON %

Gate; AnnotationType=Element; eletype=person; string=&S

SUPPLE;category=sem_cat;type=Person;text=&S;kind=person;name=&S

% PHONENO %

Gate; AnnotationType=Element; eletype=phoneno; string=&S

SUPPLE; category=sem cat; type=PhoneNo; text=&S; kind=phoneno; name=&S

% SALUTATION %

Gate; AnnotationType=Element; eletype=salutation; string=&S

SUPPLE; category=sem cat; type=Salutation; text=&S; kind=salutation; name=&S

% TOPIC %

Gate; AnnotationType=Element; eletype=TOPIC; string=&S

SUPPLE;category=sem_cat;type=Topic;text=&S;kind=topic;name=&S

The other configuration file, **feature_table.config**, specifies the lexical categories of the grammar and their features. The only entry in the table is the sem_cat category.

sem_cat;s_form;text;type;kind;name

4.2 The Grammar

Grammars have been developed for the following 14 document types.

Formal Letter Presidential Determination

White House Informal Letter Executive Order

White House Memorandum
Action-Decision Memorandum
White House Referral
Recommended Telephone Call
Presidential Proclamation
National Security Directive
National Security Review
Memorandum of Conversation

White House Press Release Memorandum of Telephone Conversation

Just as sentence form and content convey meaning, documentary form and content convey meaning. For instance, the meaning of the documentary form of a memo is something like "a memorandum with chronological date d addressed to x from author y is about topic z."

SUPPLE rules are specified in Prolog with the predicate rule(LHS,RHS) where LHS is a syntactic category and RHS is a list of syntactic categories that need to be available to make the rule fire. A rule $A \rightarrow A_1 \dots A_n$ is written as follows:

```
rule(A, [A_1, \ldots A_n]).
```

SUPPLE rules support not only parsing, but the interpretation of the content of the documentary form. Rules represent semantic information as values of the *sem* feature of categories. Semantic information is passed to the *sem* feature of the category on the left-hand side of a rule by combining elements of the semantic representation found in the *sem* feature of the list of categories on the right-hand side of the rule. The following example shows how *person* and *job title* categories pass semantic information up to the entity category. The hat (^) operator is used to create identifiers that are available for combining semantic information when a rule is fired. Any feature value that starts with a capital letter is a variable that can be used to pass the value. In this way the right-hand side of a rule passes values to the left-hand side of the rule.

```
rule(entity(s_form:F,sem:E^[[name,E,PERSON],[jobtitle,E,JOBTITLE]]), [person(s_form:F,sem:PERSON), jobtitle(s_form:F,sem:JOBTITLE)]).
```

Declarative, interrogative and imperative sentences have different forms, but they share constituents, for example, noun phrase, prepositional phrases and verb phrases. Grammars for each of the sentence types share grammar rules for the common constituents. Similarly, memoranda, correspondence and reports have different forms, but share constituents, for example, paragraphs and lists of person's names. Hence, grammars for different documentary forms can be merged so that they share rules, and each specific form is a subtype of documentary form.

The SUPPLE parser is a layered, bottom up, chart parser. Bottom-up chart parsers have the advantage that they can generate all possible parses of sentence, which is important because sentences with multiple parses are likely to be ambiguous. They have the disadvantage that for large grammars, they are slow. The SUPPLE parser overcomes this difficulty by layering the application of grammar rules. All lowest level constituents, e.g., ENTITY, are identified before attempting to identify higher-level constituents, e.g., ENTITIES. The rules in the top layer are used for the final identification of the document form. The following are the names of each layer.

```
docform_rules
sub_form_rules
body_rules
optional_rules
conv_rules
paras_rules
partic_rules
entities_rules
entity_rules
semantic_rules
```

The semantic_rules layer is the first and lowest layer. It contains rules that take a SUPPLE category from the initial chart and assigns a semantic value to it. The rules create facts in the Prolog database. The entity_rules layer is used to pass the best-parse of the entity category to the next higher layer. The entities_rules layer is used to pass the best-parse of an entities category to the partic_rules layer. The partic_rules layer allows

entities with roles to be participants. An example would be a note taker or an interpreter. The paras category is a simple group of one or more of the para(graph) category elements. The conv_rules layer is a group of two or more speaker_para elements interspersed with regular para category elements. The optional_rules layer handles optional intellectual elements that can appear close to or at the end of a documentary form. The body_rules allow paras to be interspersed with section titles. The sub_form_rules builds common categories from previously defined (recognized) categories. This is useful when a category contains optional categories or several orderings of a set of categories. These composite categories are used by the final rules that identify the documentary form of a document.

The rules in the docfiorm_rules layer are the rules that complete the identification of a documentary form. These rules also construct a logical form representing the meaning of each documentary form. Currently, fifteen documentary forms are recognized. The fifteen forms are eo (Executive Order), letter (Formal letter), memcon (Memorandum of Conversation), memo (White House Memorandum), minutes (Minutes of Cabinet Meeting), natlsecdir (National Security Directive), natsecrev (National Security Review), presproc (Presidential Proclamation), presdterm (Presidential Determination), whreferral (White House Referral), rtcmemo (Recommended Telephone Call), telecon (Memo of Telephone Conversation), whletter (White House Letter), and whpressrelease (White House Press Release).

The following are the rules of the final docform_rules layer. For examples of rules in other layers see Underwood and Laib [2008].

DECISIONMEMO → MEMOHEAD ACTIONBODY ACTIONEND

EO → EOHEADER BODY THE WHITE HOUSE CHRONDATE

LETTER → CHRONDATE INSIDE ADDRESS REFLINE SALUTATION BODY COMPCLOSE SIGNBLK OPTIONAL

LETTER → CHRONDATE INSIDE ADDRESS REFLINE SALUTATION BODY COMPCLOSE SIGNBLK

LETTER → CHRONDATE INSIDE ADDRESS SALUTATION BODY COMPCLOSE SIGNBLK

LETTER → CHRONDATE INSIDE ADDRESS SALUTATION BODY COMPCLOSE SIGNBLK

MEMCON → MEMCON HEAD CLASS CONVERSATION CLASS EOC CLASSIFICATION FOOTER

MEMCON → MEMCON HEAD CLASS CONVERSATION CLASS CLASSIFICATION FOOTER

MEMCON → MEMCON HEAD CONVERSATION EOC

MEMCON → MEMCON_HEAD CONVERSATION

MEMO → MEMOHEAD BODY

MEMO → MEMOHEAD THRU BODY

MEMO → MEMOHEAD BODY OPTIONAL

MEMO → MEMOHEAD THRU BODY OPTIONAL

MINUTES → MINUTESHDG DOCDATE BODY

NATLSECDIR → NSD HEADER BODY CLASS CLASSIFICATION DECLASSIFY ON LINE

 ${\tt NATSECREV} \to {\tt CLASSIFICATION} \ {\tt NUMBER} \ {\tt CHRONDATE} \ {\tt NSR} \ {\tt ADDRLINE} \ {\tt SUBJLINE_CLASS} \ {\tt BODY_CLASS} \ {\tt CLASSIFICATION} \ {\tt DECLASSIFY} \ {\tt ON} \ {\tt LINE}$

PRESPROC → PP HEAD BODY PP TAIL

PRESDTERM → PD_HEAD, BODY

WHREFERRAL → WHOFFICE REFERRAL CHRONDATE TOORG ARLINE DESC PALINE RETURN TO PERSON JOBTITLE

RTCMEMO → RTCHEAD RTCBODY

TELCON → TELCON HEAD CLASS CONVERSATION CLASS EOC CLASSIFICATION FOOTER

TELCON → TELCON_HEAD_CLASS CONVERSATION_CLASS EOC CLASSIFICATION_FOOTER

TELCON → TELCON HEAD CLASS CONVERSATION CLASS CLASSIFICATION FOOTER

TELCON → TELCON_HEAD CONVERSATION EOC

TELCON → TELCON HEAD CONVERSATION

WHLETTER \rightarrow CHRONDATE SALUTATION BODY COMPCLOSE SIGNBLK INSIDE_ADDRESS OPTIONAL WHLETTER \rightarrow CHRONDATE SALUTATION BODY COMPCLOSE SIGNBLK INSIDE_ADDRESS

WHPRESSRELEASE → PRHDG DOCDATE PRHEADLINE BODY ENDS WHPRESSRELEASE → PRHDG DOCDATE PRHEADLINE BODY ENDS

5. Describing E-Records in PERPOS using the Documentary Form Recognizer

The document type recognizer can be run inside the GATE's (General Architecture for Text Engineering) graphical user interface [Cunningham et al 2007]. This is done to test out new or changed element identification rules and SUPPLE parsing rules. GATE processing resources and language resources can be run through the use of GATE's Application Programmers Interface (API) runtime inside other application without using any of its graphical user interfaces.

To conduct experiments with the Bush Presidential e-records, the recognizer was interfaced to PERPOS [Underwood et al 2007] through JAVA routines that call GATE's API routines. PERPOS provides the facility for converting files in legacy file formats to plain text or html. A GATE persistent pipeline application was created that can be loaded inside a JAVA interface that can be called from inside the PERPOS application.

The JAVA interface to GATE was created in the form of a JavaBean. This JavaBean (DocParser) was used to perform the parsing of a document's contents because a JavaBean after packaging can be called by an application built using the Visual Studio. PERPOS was built using the Visual Studio. The DocParser JavaBean was packaged using the Java packager command. This created the DocParser.dll file that gets registered as the DocParser Bean Control. The DocParser.dll along with several Java jars which contain Java runtime routines (including one containing the Java runtime for GATE) are placed in a special directory in the Java runtime directory.

Next, the PERPOS Archival Repository Tool (ART) was modified to call the DocParser Bean Control for recognizing documentary forms and extracting metadata. For the DocParser to work it must be given the contents of a text file only. A Converter object was created in Visual Basic. This object is called first. If it knows how to convert a file

that was created by one of several word processing application into a text file it does so. Only if a file is convertible, or it is already a text or html file, will it attempt to run the DocParser on its contents.

Figure 8 shows an "Auto Describe Items" function that was added to PERPOS (the Presidential Electronic Record Pilot Operating System). It applies the Converter to the items in a container of records (items). The container is a Java Archive (JAR) file with a manifest. It passes the converted items to the DocParser.

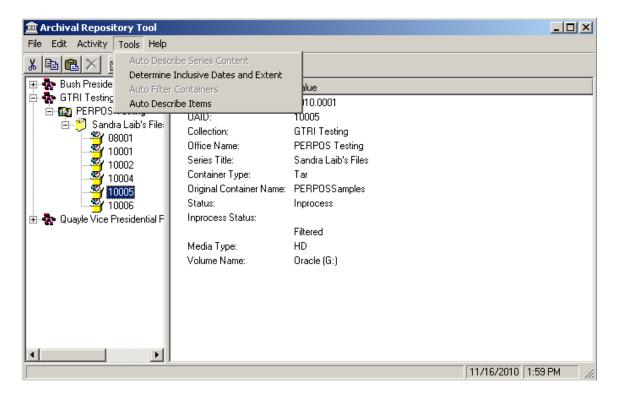


Figure 8. The Automatic Description Tool

The Auto Describe Items function can only be performed in the "Description Activity" and only after the container has been preprocessed and filtered. When the "Auto Describe Items" menu option has been selected, the files have been converted to text or html, and the parsing of intellectual elements of items has begun, progress is shown as illustrated in Figure 9.

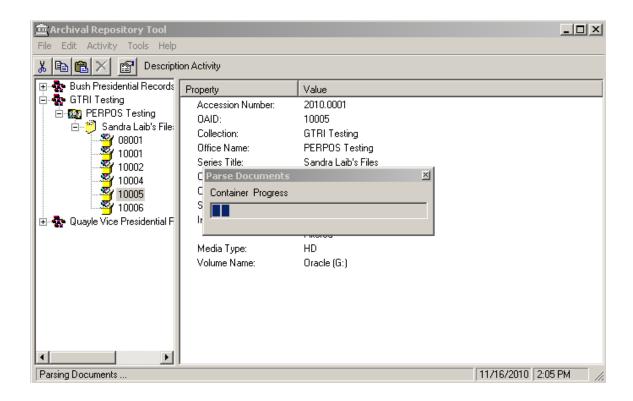


Figure 9. Progress in the Automatic Description of Records

The DocParser returns the name of the documentary form and other metadata extracted from a record. The document type and metadata extracted from a record are associated with the section in the manifest corresponding to the record.

6. Test of the Documentary Form Recognizer and Metadata Extractor

A corpus of 112 documents with examples of each of the 14 document types was constructed from paper Presidential records that are public records or have been reviewed and disclosed to the public. To this were added six copies of presidential records of six document types for which grammars have not been constructed (038: Pool Report, 042: biographical outline, 066: Summary Schedule, 182: White Paper, 303: Briefing memo, 304: Talking Points). These documents include records from presidential administrations from Reagan to Obama. The records were scanned, OCRed and converted to file formats typical to the period in which they were created, for example, Ami Professional, Word Perfect 5, and Word 98. This corpus simulates the digital records created by Presidential administrations. The corpus was accessioned into PERPOS and stored in a container.

The method for documentary form recognition was applied to this collection. The JAPE rules for recognizing intellectual elements and the SUPPLE rules for the form of documents were iteratively modified. The JAPE rules and word lists of the Semantic

Annotator were also modified to correctly annotate some person names and job titles appearing in the corpus. Eventually, the Documentary Form Recognizer was able to correctly recognize all of the documentary forms and extract the correct metadata for all 112 documents in the corpus. The Recognizer could not parse the intellectual elements of the six documents for which grammars had not been developed, so reports their *form* as *unknown*. A copy of the manifest of the JAR containing the 118 documents after the execution of the Auto Describe Items function is shown in Appendix A. Figure 10 show a manifest entry for sample item 158.rft.

```
Name: Action-DecisionMemo - RFT-DCA\158.rft
ItemID: 2
SHA-Digest: E45BD34D9F8B53361A7D2916D1ACF85D0DCFFA58
FileType: DCA-RFT Document
QLF: [document(e1), form(e1, 'Decision Memorandum'), author(e1, e2), name(e2, 'Carol Rasco'), addressee(e1, e3), name(e3, 'THE PRESIDENT'), topic(e1, 'Announcing a time schedule for unveiling your national health reform plan and introducing legislation'), date(e1, 'April 5, 1993')]
```

Figure 10. Example of a Section from the Manifest of an Auto Described Container

The file 158.rft is in a folder named "Action-DecisionMemo – RFT-DCA". The Secure Hash Algorithm (SHA)-DIGEST is computed for the file to insure that there are no unauthorized modifications to the record. The FileType (or file format) of the file is DCA-RFT Document. The QLF was returned from the Doc Parser. It is a list of predicates indicating that the (documentary-)form is Decision Memorandum, the author is Carol Rasco, the addressee is The President, the topic of the memo is 'Announcing a time schedule for unveiling your national health reform plan and introducing legislation', and the date of the Memo is April 5, 1993. A function is yet to be written to extract the metadata from the QLF, to create the keywords and values in the manifest for that metadata, and to create one or more sentences describing the item.

7. Summary of Results

The results of this research are that: (1) the intellectual elements of documentary forms can be defined in terms of the keywords and semantic categories in a document, (2) documentary forms (document types) can be defined using context-free grammars, and (3) grammars for documentary forms can be used with a parser/interpreter for context-free grammars to automatically recognize the documentary form of textual records while simultaneously identifying document metadata including date, author, addressee, and topic.

Context-free grammars have been constructed for fourteen of the documentary forms that occur in Presidential e-records. Rules were constructed for recognizing the intellectual elements of these documentary forms. These grammars were translated into context-free attribute grammars that were used with a parser to parse and interpret the intellectual

elements of Presidential e-records. The resulting semantic representation can be used to extract metadata needed for archival description and for record search and retrieval.

The intellectual elements of a documentary form were identified either by reference to a style manual for the form or by comparing examples of a document type to identify those elements of the examples that did not change from one example to another. The question arises, can the intellectual elements of a particular documentary form be learned from examples without a teacher? The question also arises, could grammatical induction be used with samples of a particular documentary form to induce a grammar automatically rather than manually? This would eliminate the manual effort needed to construct grammars from large samples, and could provide a method for automatically refining the grammar when examples of a documentary form were encountered that did not fit the current grammatical model. It would also facilitate the extension of documentary form recognition to a larger number of documentary forms.

Underwood and Harris [2006] demonstrated that it is possible to induce a grammar for the documentary form of White House memoranda and correspondence from sequences of intellectual elements occurring in samples of these document types. One of the obstacles to progress in this research was that samples of document types were created from OCRed paper documents and the intellectual element recognizer had not been created. Now, the intellectual element recognizer and document type recognizer have been interfaced to PERPOS. There are tens of thousands of e-records in the PERPOS repository that can be used in grammatical induction experiments. The intellectual element recognizer can be modified to output the intellectual elements of a record for use in grammatical induction rather than in recognition.

The research described in this paper addressed only the intellectual form of documents. In further research, rules will be formulated for recognizing the physical elements of the physical form of a document. These are elements such as the fonts, font sizes, underlining, bold and italics. These features are important for recognizing the layout and appearance of a document and for defining additional intellectual elements such as headings.

References

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Appendix A: Manifest of the Sample E-records Showing the Results of Document Type Recognition and Metadata Extraction

```
Manifest-Version: 5.1
Accession: 2010.0001
OAID: 10005
Original Name: PERPOSSamples
Container Name: 10005.tar
Last ItemID in Master: 133
Collection: GTRI Testing
Office: PERPOS Testing
Series: Sandra Laib's Files
Processing Status:
Name: Action-DecisionMemo - RFT-DCA\
ItemID: 1
FileType: Directory
Name: Action-DecisionMemo - RFT-DCA\158.rft
ItemID: 2
SHA-Digest: E45BD34D9F8B53361A7D2916D1ACF85D0DCFFA58
FileType: DCA-RFT Document
QLF: [document(e1), form(e1, 'Decision Memorandum'), author(e1, e2),
name(e2, 'Carol Rasco'), addressee(e1, e3), name(e3, 'THE PRESIDENT'),
topic(e1, 'Announcing a time schedule for unveiling your national
health reform plan and introducing legislation'), date(e1, 'April 5,
1993')]
Name: Action-DecisionMemo - RFT-DCA\299.rft
ItemID: 3
SHA-Digest: FAAB9189929DC54A3D7ECDD492B1F77A766E3317
FileType: DCA-RFT Document
QLF: [document(e1), form(e1, 'Decision Memorandum'), author(e1, e2),
name(e2, 'KATHLEEN A. MCGINTY'), addressee(e1, e3), name(e3, 'THE
PRESIDENT'), topic(e1, 'ATTACHED LETTER TO SECRETARY BABBITT FOR YOUR
SIGNATURE'), date(e1, 'MARCH 29, 1996')]
Name: ExecutiveOrder - Ami Pro\
ItemID: 4
FileType: Directory
Name: ExecutiveOrder - Ami Pro\264.sam
ItemID: 5
SHA-Digest: 91FE6105957D5F89E91FD3ACC075A65DABF7CA65
FileType: Ami Professional Document
QLF: [document(e1), form(e1, 'Executive Order'), author(e1, e2),
name(e2, 'The President'), addressee(e1, e3), name(e3, 'Staff of
Executive Branch'), topic(e1, 'ESTABLISHING THE NATIONAL SPACE
COUNCIL'), date(e1, 'April 20, 1989')]
Name: ExecutiveOrder - Ami Pro\283.sam
ItemID: 6
SHA-Digest: E990B11ADF6C14E5995139D698EBE1F552ECAA1E
```

FileType: Ami Professional Document QLF: [document(e1), form(e1, 'Executive Order'), author(e1, e2), name(e2, 'The President'), addressee(e1, e3), name(e3, 'Staff of Executive Branch'), topic(e1, 'AMENDMENT TO EXECUTIVE ORDER 12958 --CLASSIFIED NATIONAL SECURITY INFORMATION'), date(e1, 'November 19, 1999')] Name: ExecutiveOrder - Ami Pro\284.sam ItemID: 7 SHA-Digest: 7ADB2652FC0634B236D0659DA47BF0CBAF03990A FileType: Ami Professional Document QLF: [document(e1), form(e1, 'Executive Order'), author(e1, e2), name(e2, 'The President'), addressee(e1, e3), name(e3, 'Staff of Executive Branch'), topic(e1, 'PROHIBITING TRANSACTIONS WITH TERRORISTS WHO THREATEN TO DISRUPT THE MIDDLE EAST PEACE PROCESS'), date(e1, 'January 23, 1995')] Name: ExecutiveOrder - Ami Pro\288.sam ItemID: 8 SHA-Digest: 4D7EA447AE0E98F9325E6A0614D5936850502B7C FileType: Ami Professional Document QLF: [document(e1), form(e1, 'Executive Order'), author(e1, e2), name(e2, 'The President'), addressee(e1, e3), name(e3, 'Staff of Executive Branch'), topic(e1, 'PRESIDENTIAL RECORDS'), date(e1, 'January 21, 2009')] Name: ExecutiveOrder - Ami Pro\289.sam ItemID: 9 SHA-Digest: EC247046ADB8AE57A61BF0E010344638AFB14C36 FileType: Ami Professional Document QLF: [document(e1), form(e1, 'Executive Order'), author(e1, e2), name(e2, 'The President'), addressee(e1, e3), name(e3, 'Staff of Executive Branch'), topic(e1, 'ESTABLISHING A WHITE HOUSE COUNCIL ON WOMEN AND GIRLS'), date(e1, 'March 11, 2009')] Name: ExecutiveOrder - Ami Pro\290.sam ItemID: 10 SHA-Digest: 77B245ACA6F466D51412C460D0E5E4BC0D63AD75 FileType: Ami Professional Document QLF: [document(e1), form(e1, 'Executive Order'), author(e1, e2), name(e2, 'The President'), addressee(e1, e3), name(e3, 'Staff of Executive Branch'), topic(e1, 'REVIEW AND DISPOSITION OF INDIVIDUALS DETAINED AT THE GUANTANAMO BAY NAVAL BASE AND CLOSURE OF DETENTION FACILITIES'), date(e1, 'January 22, 2009')] Name: ExecutiveOrder - Ami Pro\291.sam ItemID: 11 SHA-Digest: E0AEE5BC60FC715B76CAC2DD04931AD51F8396A3 FileType: Ami Professional Document QLF: [document(e1), form(e1, 'Executive Order'), author(e1, e2), name(e2, 'The President'), addressee(e1, e3), name(e3, 'Staff of Executive Branch'), topic(e1, 'REVISED LIST OF QUARANTINABLE COMMUNICABLE DISEASES'), date(e1, 'April 4, 2003')] Name: ExecutiveOrder - Ami Pro\292.sam ItemID: 12 SHA-Digest: 6B38F750223DCC9FC9F70650D5DA0CD89CB43F8D

```
FileType: Ami Professional Document
QLF: [document(e1), form(e1, 'Executive Order'), author(e1, e2),
name(e2, 'The President'), addressee(e1, e3), name(e3, 'Staff of
Executive Branch'), topic(e1, 'TO PROHIBIT DISCRIMINATION IN FEDERAL
EMPLOYMENT BASED ON GENETIC INFORMATION'), date(e1, 'February 8,
2000')1
Name: ExecutiveOrder - Ami Pro\293.sam
ItemID: 13
SHA-Digest: F7487274CF50DFC6DF234B13EE16BC29A63678DB
FileType: Ami Professional Document
QLF: [document(e1), form(e1, 'Executive Order'), author(e1, e2),
name(e2, 'The President'), addressee(e1, e3), name(e3, 'Staff of
Executive Branch'), topic(e1, 'REMOVING BARRIERS TO RESPONSIBLE
SCIENTIFIC RESEARCH INVOLVING HUMAN STEM CELLS'), date(e1, 'March 9,
2009')1
Name: ExecutiveOrder - Ami Pro\294.sam
ItemID: 14
SHA-Digest: 5F60E5DD3FDCD811A8EE3AD039DD7A23CE73B9B6
FileType: Ami Professional Document
QLF: [document(e1), form(e1, 'Executive Order'), author(e1, e2),
name(e2, 'The President'), addressee(e1, e3), name(e3, 'Staff of
Executive Branch'), topic(e1, 'NOTIFICATION OF EMPLOYEE RIGHTS UNDER
FEDERAL LABOR LAWS'), date(e1, 'January 30, 2009')]
Name: FormalLetters - Word for DOS 6.x\
ItemID: 15
FileType: Directory
Name: FormalLetters - Word for DOS 6.x\007.doc
ItemID: 16
SHA-Digest: A9B6A9688DF1EE6038DFEC827A3D1878117C1975
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'Formal Letter'), author(e1, e2), name(e2,
'George Bush'), addressee(e1, e3), name(e3, 'His Excellency Deng
Xiaoping'), date(e1, 'June 20, 1989')]
Name: FormalLetters - Word for DOS 6.x\008.doc
ItemID: 17
SHA-Digest: 48FA0D6493182FA35B00B94D60EF89C5BC5E5BE8
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'Formal Letter'), author(e1, e2), name(e2, 'George Bush'), addressee(e1, e3), name(e3, 'His Excellency Mikhail
Gorbachev'), date(e1, 'July 21, 1989')]
Name: FormalLetters - Word for DOS 6.x\009.doc
ItemID: 18
SHA-Digest: 232AB70AB9EA4BBB4C7FFBF438E95E4CA66E4DAB
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'Formal Letter'), author(e1, e2), name(e2,
'George'), addressee(e1, e3), name(e3, 'The Honorable Jim Lightfoot'),
date(e1, 'October 15, 1990')]
Name: FormalLetters - Word for DOS 6.x\016.doc
ItemID: 19
SHA-Digest: 63D100C0CD22939F70B8CA88D2077385C24718D1
```

```
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'Formal Letter'), author(e1, e2), name(e2, 'George Bush'), addressee(e1, e3), name(e3, 'The Honorable Lee
Atwater'), date(e1, 'March 14, 1989')]
Name: FormalLetters - Word for DOS 6.x\059.doc
ItemID: 20
SHA-Digest: 482C23E9E2D5C4C63366C611BA38C831943196A8
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'Formal Letter'), author(e1, e2), name(e2,
'James P. Pinkerton'), jobtitle(e2, 'Deputy Assistant to the
President'), addressee(e1, e3), name(e3, 'Patrick B. Augustine, Esq.'),
date(e1, 'February 9, 1989')]
Name: FormalLetters - Word for DOS 6.x\070.doc
ItemID: 21
SHA-Digest: C667937C9B184AEF5613E1B88E2FCE2EC50C47E1
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'Formal Letter'), author(e1, e2), name(e2,
'Jane Barnett Leonard'), jobtitle(e2, 'Assistant Director'),
organizaton(e2, 'Office of Public Liaison'), addressee(e1, e3),
name(e3, 'The Honorable Thomas P. Melady'), date(e1, 'January 10,
1992')1
Name: FormalLetters - Word for DOS 6.x\196.doc
ItemID: 22
SHA-Digest: 27224DBF96C502691D36ADE03F7275028FFCC711
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'Formal Letter'), author(e1, e2), name(e2,
'William J. Clinton'), addressee(e1, e3), name(e3, 'Elizabeth
Neumeier'), date(e1, 'August 30, 1994')]
Name: MEMCON - Word for DOS 6.x\
ItemID: 23
FileType: Directory
Name: MEMCON - Word for DOS 6.x\167.doc
ItemID: 24
SHA-Digest: F934173629BEE95C1D5517D1D30AF8C8BFA16064
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'MEMCON'), classification(e1,
'UNCLASSIFIED'), date(e1, 'December 3, 1989'), topic(e1, 'Meeting with
Helmut Kohl, Chancellor of the Federal Republic of Germany')]
Name: MEMCON - Word for DOS 6.x\262.doc
ItemID: 25
SHA-Digest: F4C6C6EF7495FA1F8B9695D00C3FDABEACF0D81C
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'MEMCON'), classification(e1,
'UNCLASSIFIED'), date(e1, 'None'), topic(e1, 'Memorandum of
Conversation between Prime Minister Shamir and President Bush')]
Name: MEMCON - Word for DOS 6.x\263.doc
ItemID: 26
SHA-Digest: 7BCEA472EF93890924BB5BD8B56D730345494EEE
FileType: MS Word for DOS Document
```

QLF: [document(e1), form(e1, 'MEMCON'), classification(e1, 'UNCLASSIFIED'), date(e1, 'None'), topic(e1, 'Memorandum of Conversation of Meeting between Jordanian Foreign Minister Abu Jabir, Haydar Abdul Shafi and President Bush')]

Name: NationalSecurityDirective - Word $6.0-95\$

ItemID: 27

FileType: Directory

date(e1, 'October 2, 1989')]

Name: NationalSecurityDirective - Word 6.0-95\014.doc ItemID: 28 SHA-Digest: 78EA8381FF20068E7D7C6950FBB9854D6F9B4028 FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'National Security Directive'), nsd id(e1, 'NATIONAL SECURITY DIRECTIVE 26'), classification(e1, 'UNCLASSIFIED'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE VICE PRESIDENT'), member(e2, e14), name(e14, 'THE SECRETARY OF STATE'), member(e2, e13), name(e13, 'THE SECRETARY OF THE TREASURY'), member(e2, e12), name(e12, 'THE SECRETARY OF DEFENSE'), member(e2, e11), name(e11, 'THE ATTORNEY GENERAL'), member(e2, e10), name(e10, 'THE SECRETARY OF ENERGY'), member(e2, e9), name(e9, 'THE DIRECTOR OF THE OFFICE OF MANAGEMENT AND BUDGET'), member(e2, e8), name(e8, 'THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS'), member(e2, e7), name(e7, 'THE DIRECTOR OF CENTRAL INTELLIGENCE'), member(e2, e6), name(e6, 'THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF'), member(e2, e5), name (e5, 'THE DIRECTOR, UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY'), member(e2, e4), name(e4, 'THE DIRECTOR, UNITED STATES INFORMATION AGENCY'), topic(e1, 'U.S. Policy Toward the Persian Gulf'),

Name: NationalSecurityDirective - Word 6.0-95\152.doc ItemID: 29 SHA-Digest: E545A6065622D5780D0460E7C965A1AB49E19DCA FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'National Security Directive'), nsd id(e1, 'NATIONAL SECURITY DIRECTIVE 32'), classification(e1, 'UNCLASSIFIED'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE VICE PRESIDENT'), member(e2, e13), name(e13, 'THE SECRETARY OF STATE'), member(e2, e12), name(e12, 'THE SECRETARY OF THE TREASURY'), member(e2, e11), name(e11, 'THE SECRETARY OF DEFENSE'), member(e2, e10), name(e10, 'THE ATTORNEY GENERAL'), member (e2, e9), name (e9, 'THE SECRETARY OF COMMERCE'), member(e2, e8), name(e8, 'THE SECRETARY OF TRANSPORTATION'), member(e2, e7), name(e7, 'THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS'), member(e2, e6), name(e6, 'THE DIRECTOR OF CENTRAL INTELLIGENCE'), member(e2, e5), name(e5, 'THE CHAIRMAN'), member(e2, e4), jobtitle(e4, 'JOINT CHIEF OF STAFF'), topic (el, 'Economic Sanctions Against Panama'), date (el, 'November 30, 1989')]

Name: NationalSecurityDirective - Word 6.0-95\187.doc
ItemID: 30
SHA-Digest: 93B9FC4029D3907DF552107B75ED584F6FD3A51A
FileType: MS Rich Text Format Document
QLF: [document(e1), form(e1, 'National Security Directive'), nsd_id(e1, 'NATIONAL SECURITY DIRECTIVE 5'), classification(e1, 'UNCLASSIFIED'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE VICE
PRESIDENT'), member(e2, e12), name(e12, 'THE SECRETARY OF STATE'),

member(e2, e11), name(e11, 'THE SECRETARY OF TREASURY'), member(e2, e10), name(e10, 'THE ACTING SECRETARY OF DEFENSE'), member(e2, e9), name(e9, 'THE ATTORNEY GENERAL'), member(e2, e8), name(e8, 'THE DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET'), member(e2, e7), name(e7, 'THE DIRECTOR OF CENTRAL INTELLIGENCE'), member(e2, e6), name(e6, 'THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS'), member(e2, e5), name(e5, 'THE CHAIRMAN, JOINT CHIEFS OF STAFF'), member(e2, e4), name(e4, 'THE ADMINISTRATOR, AGENCY FOR INTERNATIONAL DEVELOPMENT'), topic(e1, 'Legislation to Authorize the Transfer of Funds to the Agency for International Development (AID) for Humanitarian Assistance to Afghanistan'), date(e1, 'March 18, 1989')]

Name: NationalSecurityDirective - Word 6.0-95\295.doc ItemID: 31 SHA-Digest: 00339E77B741464F1A4F92576F9DEFD511A1FA4B FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'National Security Directive'), nsd id(e1, 'NATIONAL SECURITY DIRECTIVE 21'), classification(e1, 'UNCLASSIFIED'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE VICE PRESIDENT'), member(e2, e12), name(e12, 'THE SECRETARY OF STATE'), member(e2, e11), name(e11, 'THE SECRETARY OF TREASURY'), member(e2, e10), name(e10, 'THE ACTING SECRETARY OF DEFENSE'), member(e2, e9), name(e9, 'THE ATTORNEY GENERAL'), member(e2, e8), name(e8, 'THE DIRECTOR OF THE OFFICE OF MANAGEMENT AND BUDGET'), member(e2, e7), name (e7, 'THE DIRECTOR OF CENTRAL INTELLIGENCE'), jobtitle (e7, 'CHIEF OF STAFF TO THE PRESIDENT'), member(e2, e6), jobtitle(e6, 'ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS'), member (e2, e5), jobtitle(e5, 'CHAIRMAN'), member(e2, e4), organizaton(e4, 'JOINT CHIEFS OF STAFF'), topic(e1, 'U.S. Policy Towards Panama Under Noriega after September 1, 1989'), date(e1, 'September 1, 1989')]

Name: NationalSecurityDirective - Word 6.0-95\296.doc ItemID: 32 SHA-Digest: 5938208B8AE18F5ADDEEDB317E564C23320C8666 FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'National Security Directive'), nsd id(e1, 'NATIONAL SECURITY DIRECTIVE 46'), classification(e1, 'UNCLASSIFIED'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE VICE PRESIDENT'), member(e2, e17), name(e17, 'THE SECRETARY OF STATE'), member(e2, e16), name(e16, 'THE SECRETARY OF THE TREASURY'), member(e2, e15), name(e15, 'THE SECRETARY OF DEFENSE'), member(e2, e14), name(e14, 'THE ATTORNEY GENERAL'), member(e2, e13), name(e13, 'THE SECRETARY OF COMMERCE'), member(e2, e12), name(e12, 'THE SECRETARY OF TRANSPORTATION'), member(e2, e11), name(e11, 'THE SECRETARY OF ENERGY'), member(e2, e10), jobtitle(e10, 'DIRECTOR OF THE OFFICE OF MANAGEMENT AND BUDGET'), member(e2, e9), jobtitle(e9, 'UNITED STATES TRADE REPRESENTATIVE'), member(e2, e8), name(e8, 'THE CHIEF OF STAFF TO THE PRESIDENT'), member(e2, e7), name(e7, 'THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS'), jobtitle(e7, 'DIRECTOR OF CENTRAL INTELLIGENCE'), member(e2, e6), jobtitle(e6, 'CHAIRMAN OF THE JOINT CHIEFS OF STAFF'), member(e2, e5), jobtitle(e5, 'DIRECTOR OF THE ARMS CONTROL AND DISARMAMENT AGENCY'), member(e2, e4), jobtitle(e4, 'ADMINISTRATOR OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION'), topic(e1, 'Cape York'), date(e1, 'September 7, 1990')]

Name: NationalSecurityDirective - Word 6.0-95\297.doc

ItemID: 33 SHA-Digest: 4050FDB7DD0D72F2A12E287E1FEFB9D9A2DDB47B FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'National Security Directive'), nsd id(e1, 'NATIONAL SECURITY DIRECTIVE 29'), classification(e1, 'UNCLASSIFIED'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE VICE PRESIDENT'), member (e2, e12), name (e12, 'THE SECRETARY OF STATE'), member(e2, e11), name(e11, 'THE SECRETARY OF DEFENSE'), member(e2, e10), name(e10, 'THE SECRETARY OF ENERGY'), member(e2, e9), name(e9, 'THE DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET'), member(e2, e8), name (e8, 'THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS'), member(e2, e7), name(e7, 'THE DIRECTOR OF CENTRAL INTELLIGENCE'), member (e2, e6), name (e6, 'THE CHAIRMAN, JOINT CHIEFS OF STAFF'), member(e2, e5), name(e5, 'THE DIRECTOR, ARMS CONTROL AND DISARMAMENT AGENCY'), member(e2, e4), name(e4, 'THE DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY'), topic(e1, 'The FY 1990 Aqueduct Nuclear Test Program'), date(e1, 'October 30, 1990')] Name: NationalSecurityReview - Word 97-2003\ ItemID: 34 FileType: Directory Name: NationalSecurityReview - Word 97-2003\151.doc ItemID: 35 SHA-Digest: 67208EA50B1E00BC9C36C40CDDD740EB1803668A FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'National Security Review'), nsr id(e1, 'NATIONAL SECURITY REVIEW-2'), classification(e1, 'UNCLASSIFIED'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE VICE PRESIDENT'), member(e2, e8), name(e8, 'THE SECRETARY OF STATE'), member(e2, e7), name(e7, 'THE SECRETARY OF DEFENSE'), member(e2, e6), name(e6, 'THE DIRECTOR OF CENTRAL INTELLIGENCE'), member(e2, e5), name (e5, 'THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS'), member(e2, e4), name(e4, 'THE CHAIRMAN, JOINT CHIEFS OF STAFF'), topic(e1, 'Panama'), date(e1, 'February 13, 1989')] Name: NationalSecurityReview - Word 97-2003\301.doc ItemID: 36 SHA-Digest: 09297DC8106D46FE00D220575CED7D4EC6C5F727 FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'National Security Review'), nsr id(e1, 'NATIONAL SECURITY REVIEW 27'), classification(e1, 'UNCLASSIFIED'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE VICE PRESIDENT'), member(e2, e19), name(e19, 'THE SECRETARY OF STATE'), member(e2, e18), name(e18, 'THE SECRETARY OF THE TREASURY'), member(e2, e17), name(e17, 'THE SECRETARY OF DEFENSE'), member(e2, e16), name(e16, 'THE ATTORNEY GENERAL'), member(e2, e15), name(e15, 'THE SECRETARY OF THE INTERIOR'), member(e2, e14), name(e14, 'THE SECRETARY OF COMMERCE'), jobtitle(e14, 'DIRECTOR'), member(e2, e13), organizaton(e13, 'OFFICE OF MANAGEMENT AND BUDGET'), member(e2, e12), jobtitle(e12, 'UNITED STATES TRADE REPRESENTATIVE'), member(e2, e11), jobtitle(e11, 'CHIEF OF STAFF TO THE PRESIDENT'), member(e2, e10), jobtitle(e10, 'ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS'), member(e2, e9), jobtitle(e9, 'DIRECTOR OF CENTRAL INTELLIGENCE'), member(e2, e8), jobtitle(e8, 'CHAIRMAN'), member(e2, e7), organizaton(e7, 'JOINT CHIEFS OF STAFF'), member(e2, e6), jobtitle(e6, 'ADMINISTRATOR'), member(e2, e5), organizaton(e5, 'AGENCY

FOR INTERNATIONAL DEVELOPMENT'), member(e2, e4), jobtitle(e4, 'DIRECTOR'), organizaton(e4, 'UNITED STATES INFORMATION AGENCY'), topic(e1, 'National Security Review of Low Intensity Conflict'), date(e1, 'June 11, 1990')] Name: NationalSecurityReview - Word 97-2003\305.doc ItemID: 37 SHA-Digest: 5029AE9D2F25E98F752B64C6F1D2461095F273F5 FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'National Security Review'), nsr id(e1, 'NATIONAL SECURITY REVIEW 16'), classification(e1, 'UNCLASSIFIED'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE VICE PRESIDENT'), member(e2, e13), name(e13, 'THE SECRETARY OF STATE'), member(e2, e12), name(e12, 'THE SECRETARY OF THE TREASURY'), member(e2, e11), name(e11, 'THE SECRETARY OF DEFENSE'), member(e2, e10), name(e10, 'THE DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET'), member(e2, e9), name (e9, 'THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS'), member(e2, e8), name(e8, 'THE ASSISTANT TO THE PRESIDENT FOR ECONOMIC AND DOMESTIC POLICY'), jobtitle(e8, 'CHAIRMAN'), member(e2, e7), organizaton(e7, 'JOINT CHIEFS OF STAFF'), member(e2, e6), jobtitle(e6, 'ADMINISTRATOR'), member(e2, e5), organizaton(e5, 'AGENCY FOR INTERNATIONAL DEVELOPMENT'), member (e2, e4), jobtitle (e4, 'DIRECTOR'), organizaton(e4, 'UNITED STATES INFORMATION AGENCY'), topic(e1, 'Comprehensive Review of International Affairs Budget and programs'), date(e1, 'June 7, 1989')] Name: OtherDocumentTypes\ ItemID: 38 FileType: Directory Name: OtherDocumentTypes\038.rtf ItemID: 39 SHA-Digest: 6F9C2FA8AC80438E90B04E47D7C049531ADB9C43 FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'unknown')] Name: OtherDocumentTypes\042.rtf ItemID: 40 SHA-Digest: 85D9760E8166760581A667CDF8E84849795D7655 FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'unknown')] Name: OtherDocumentTypes\066.rtf ItemID: 41 SHA-Digest: B4525175B94B0ECCE5E54371F6E475FC83B6741F FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'unknown')] Name: OtherDocumentTypes\182.doc ItemID: 42 SHA-Digest: D5B75155C7A5D8F3D472A5285690DDCCDF87DE6E FileType: Microsoft Office Word Document Name: OtherDocumentTypes\303.rtf ItemID: 43 SHA-Digest: EB401C3EABF518784432273FC606764277F114EC FileType: MS Rich Text Format Document

QLF: [document(e1), form(e1, 'unknown')] Name: OtherDocumentTypes\304.rtf ItemID: 44 SHA-Digest: 1D779D404756878A89223E016408762BB68E047B FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'unknown')] Name: PresidentialDetermination - Word 3x-5x for Dos\ ItemID: 45 FileType: Directory Name: PresidentialDetermination - Word 3x-5x for Dos\155.doc ItemID: 46 SHA-Digest: 6BAED2C36D92921AFB23F756681700DA72857130 FileType: MS Word for DOS Document QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1, 'The President'), addressee(e1, e2), name(e2, 'THE SECRETARY OF STATE'), topic(e1, 'Certification with Respect to Section 1307 of the National Defense Authorization Act, Fiscal Year 1989'), date(e1, 'April 12, 1989')] Name: PresidentialDetermination - Word 3x-5x for Dos\267.doc ItemID: 47 SHA-Digest: 755B9C1CED94718CAB191CEBC08577DA5A679A8C FileType: MS Word for DOS Document QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1, 'The President'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY'), member(e2, e4), name(e4, 'THE SECRETARY OF THE AIR FORCE'), topic(e1, 'Presidential Determination on Classified Information Concerning the Air Force\'s Operating Location Near Groom Lake, Nevada'), date(e1, 'September 29, 1995')] Name: PresidentialDetermination - Word 3x-5x for Dos\268.doc ItemID: 48 SHA-Digest: 80C5D8F842BB6B568C6479FA74684A138B386FC2 FileType: MS Word for DOS Document QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1, 'The President'), addressee(e1, e2), name(e2, 'ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY THE SECRETARY OF THE AIR FORCE'), topic(e1, 'Classified Information Concerning the Air Force\'s Operating Location Near Groom Lake, Nevada'), date(e1, 'September 13, 2002')] Name: PresidentialDetermination - Word 3x-5x for Dos\269.doc ItemID: 49 SHA-Digest: 8C6A88AAE9A0CEECBE513966B3A255114CFD9FD9 FileType: MS Word for DOS Document QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1, 'The President'), addressee(e1, e2), name(e2, 'THE SECRETARY OF STATE'), topic(e1, 'Determination under Section 405(a) of the Trade Act of 1974, as amended, Concerning the Socialist Republic of Vietnam'), date(e1, 'June 8, 2001')] Name: PresidentialDetermination - Word 3x-5x for Dos\270.doc ItemID: 50

SHA-Digest: 01D9777EDB136A91BE40B46102AC13FC1E985372

FileType: MS Word for DOS Document QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1, 'The President'), addressee(e1, e2), name(e2, 'THE SECRETARY OF STATE'), topic(e1, 'Presidential Determination on FY 2003 Refugee Admissions Numbers and Authorizations of In-Country Refugee Status'), date(e1, 'October 16, 2002')]

Name: PresidentialDetermination - Word 3x-5x for Dos\271.doc ItemID: 51

SHA-Digest: 4C66C62FD883266ACC83A94C56DA82C68CFF6513

FileType: MS Word for DOS Document

QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1, 'The President'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE SECRETARY OF STATE'), member(e2, e4), name(e4, 'THE SECRETARY OF ENERGY'), topic(e1, 'Presidential Determination on the Proposed Protocol Amending the Agreement for Cooperation Between the Government of the United States of America and the Government of the Kingdom of Morocco Concerning Peaceful Uses of Nuclear Energy'), date(e1, 'August 31, 2001')]

Name: PresidentialDetermination - Word 3x-5x for Dos\272.doc ItemID: 52

SHA-Digest: C2EF7A8400527EA2D40DB3C0FB7E214A6310DA94

FileType: MS Word for DOS Document

QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1, 'The President'), addressee(e1, e2), name(e2, 'THE SECRETARY OF STATE'), topic(e1, 'Waiving Prohibition on United States Military Assistance to Parties to the Rome Statute Establishing the International Criminal Court'), date(e1, 'July 29, 2003')]

Name: PresidentialDetermination - Word 3x-5x for Dos\273.doc ItemID: 53

SHA-Digest: 8D5B4BEE6AD651C45F1E16B1EBD6A615871303ED

FileType: MS Word for DOS Document

QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1, 'The President'), addressee(e1, e2), name(e2, 'THE SECRETARY OF STATE'), topic(e1, 'Suspending Restrictions on U.S. Relations with the Palestine Liberation Organization'), date(e1, 'January 4, 1996')]

Name: PresidentialDetermination - Word 3x-5x for Dos\274.doc ItemID: 54

SHA-Digest: 1B8E13EE6A7B06599F33CD9CCE5437B25EB40CA0

FileType: MS Word for DOS Document

QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1, 'The President'), addressee(e1, e2), set(e2), member(e2, e3), name(e3, 'THE SECRETARY OF STATE'), member(e2, e4), name(e4, 'THE SECRETARY OF ENERGY'), topic(e1, 'Proposed Agreement for Cooperation Between the Government of the United States of America and the Government of the United Arab Emirates Concerning Peaceful Uses of Nuclear Energy'), date(e1, 'May 19, 2009')]

Name: PresidentialDetermination - Word 3x-5x for Dos\275.doc ItemID: 55

SHA-Digest: 7D082B4C12D985044BDFC00BD285263F4643D9D0

FileType: MS Word for DOS Document

QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1, 'The President'), addressee(e1, e2), name(e2, 'THE SECRETARY OF

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STATE'), topic(e1, 'Determination under Section 402(c)(2)(A) of the
Trade Act of 1974 -- Czechoslovakia'), date(e1, 'February 20, 1990')]
Name: PresidentialDetermination - Word 3x-5x for Dos\276.doc
ItemID: 56
SHA-Digest: E735031A15FE1C22CC8B5B2FA451ABCF93D03072
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1,
'The President'), addressee(e1, e2), name(e2, 'THE SECRETARY OF
STATE'), topic(e1, 'Determination to Authorize Assistance for
Nicaragua'), date(e1, 'April 25, 1990')]
Name: PresidentialDetermination - Word 3x-5x for Dos \ 277.doc
ItemID: 57
SHA-Digest: 459AB914ADF0F1C3FFA4B9ABF9897BB4BCFBBE37
FileType: MS Word for DOS Document
QLF: [document(e1), form(e1, 'Presidential Determination'), author(e1,
'The President'), addressee(e1, e2), name(e2, 'THE SECRETARY OF
STATE'), topic(el, 'Presidential Determination under Section
402(c)(2)(A) of the Trade Act of 1974, as Amended -- Bulgaria'),
date(e1, 'January 22, 1991')]
Name: Proclamations - WordPerfect 5.x for windows\
ItemID: 58
FileType: Directory
Name: Proclamations - WordPerfect 5.x for windows\156.doc
ItemID: 59
SHA-Digest: 63384EC1AF5EA87EFD35266E527E99A9AC3B8570
FileType: WordPerfect 5.1/5.2 Document
QLF: [document(e1), form(e1, 'Presidential Proclamation'), author(e1,
'The President'), addressee(e1, 'US Citizens'), date(e1, 'twenty-third
day of December in the year of our Lord nineteen hundred and ninety-
one')]
Name: Proclamations - WordPerfect 5.x for windows\198.doc
ItemID: 60
SHA-Digest: 14F66D4DFD2738A689AA878DD009B7EC3AE2C5B1
FileType: WordPerfect 5.1/5.2 Document
QLF: [document(e1), form(e1, 'Presidential Proclamation'), author(e1,
'The President'), addressee(e1, 'US Citizens'), date(e1, 'twenty-fourth
day of December in the year of our Lord nineteen hundred and ninety-
two')]
Name: Proclamations - WordPerfect 5.x for windows\254.doc
ItemID: 61
SHA-Digest: 2F79C12A14909D3FEDF09D9C09CCA354AD73B778
FileType: WordPerfect 5.1/5.2 Document
QLF: [document(e1), form(e1, 'Presidential Proclamation'), author(e1,
'The President'), addressee(e1, 'US Citizens'), date(e1, 'eleventh day
of October in the year of our Lord nineteen hundred and ninety-one')]
Name: Proclamations - WordPerfect 5.x for windows\255.doc
ItemID: 62
SHA-Digest: B809C3AAE4DA740B17E701D38CC3844C50742D23
FileType: WordPerfect 5.1/5.2 Document
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QLF: [document(e1), form(e1, 'Presidential Proclamation'), author(e1,
'The President'), addressee(e1, 'US Citizens'), date(e1, 'twenty-eighth
day of October in the year of our Lord nineteen hundred and ninety-
one')]
Name: Proclamations - WordPerfect 5.x for windows\265.doc
TtemID: 63
SHA-Digest: FE66F2766D49E0596E40A1229DEDDBA703378514
FileType: WordPerfect 5.1/5.2 Document
QLF: [document(e1), form(e1, 'Presidential Proclamation'), author(e1,
'The President'), addressee(e1, 'US Citizens'), date(e1, 'twenty-eighth
day of January in the year of our Lord nineteen hundred and eighty-
seven')]
Name: Proclamations - WordPerfect 5.x for windows\278.doc
ItemID: 64
SHA-Digest: 137BF98CC19D422CCF726186E574AD9222E1A4BB
FileType: WordPerfect 5.1/5.2 Document
QLF: [document(e1), form(e1, 'Presidential Proclamation'), author(e1,
'The President'), addressee(e1, 'US Citizens'), date(e1, 'first day of
June in the year of our Lord two thousand nine')]
Name: Proclamations - WordPerfect 5.x for windows\279.doc
ItemID: 65
SHA-Digest: D893D25FD967D86A9AA12C937D787318168E37C9
FileType: WordPerfect 5.0 Document
QLF: [document(e1), form(e1, 'Presidential Proclamation'), author(e1,
'The President'), addressee(e1, 'US Citizens'), date(e1, 'twenty-
seventh day of February in the year of our Lord two thousand nine')]
Name: Proclamations - WordPerfect 5.x for windows\280.doc
ItemID: 66
SHA-Digest: 687090A465108AB9309EC443FC5F92A24B4D85D3
FileType: WordPerfect 5.1/5.2 Document
QLF: [document(e1), form(e1, 'Presidential Proclamation'), author(e1,
'The President'), addressee(e1, 'US Citizens'), date(e1, 'eighteenth
day of June in the year of our Lord two thousand nine')]
Name: Proclamations - WordPerfect 5.x for windows\281.doc
ItemID: 67
SHA-Digest: 71068CFA4EF2BD673FA5567156555D9EF61DD5E0
FileType: WordPerfect 5.1/5.2 Document
QLF: [document(e1), form(e1, 'Presidential Proclamation'), author(e1,
'The President'), addressee(e1, 'US Citizens'), date(e1, 'thirteenth
day of September in the year of our Lord two thousand one')]
Name: Proclamations - WordPerfect 5.x for windows\282.doc
ItemID: 68
SHA-Digest: 4C0A801E7341710A89484051888F7FF7099ACD02
FileType: WordPerfect 5.1/5.2 Document
QLF: [document(e1), form(e1, 'Presidential Proclamation'), author(e1,
'The President'), addressee(e1, 'US Citizens'), date(e1, 'seventh day
of May in the year of our Lord nineteen hundred and ninety-four')]
Name: Proclamations - WordPerfect 5.x for windows\285.doc
ItemID: 69
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SHA-Digest: CCE0F76DB1D4A79A4BD711B70663A6742FA7322A

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addressee(e1, e3), name(e3, 'The President'), purpose(e1, 'To thank him for all of his efforts As the President\'s nominee as Associate Justice of the Supreme Court Of the United States.'), date(e1, 'October 23, 1987')] Name: TELCON - RTF\ ItemID: 76 FileType: Directory Name: TELCON - RTF\168.rtf ItemID: 77 SHA-Digest: 2C2CB59322ECC127457A43BF4CB6BC00BF2606E6 FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'TELCON'), classification(e1, 'UNCLASSIFIED'), date(e1, 'February 13, 1990'), topic(e1, 'Telephone Call from Chancellor Helmut Kohl of The Federal Republic of Germany')] Name: TELCON - RTF\251.rtf ItemID: 78 SHA-Digest: 10D614EB15DE53634415CE758C92F22FD9A52D0C FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'TELCON'), date(e1, 'November 10, 1989'), topic(e1, 'Telephone Conversation with Helmut Kohl, Chancellor -Federal Republic of Germany')] Name: TELCON - RTF\252.rtf ItemID: 79 SHA-Digest: BFCCAE41AB3F0B1B47092BA4951A7718AE9D9BA9 FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'TELCON'), classification(e1, 'UNCLASSIFIED'), date(e1, 'October 23, 1989'), topic(e1, 'Telephone Call from Helmut Kohl of The Federal Republic of Germany')] Name: TELCON - RTF\253.rtf ItemID: 80 SHA-Digest: 6DE09B64B6E359E76BCB0C8710B601F5EF8F6C00 FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'TELCON'), date(e1, 'October 6, 1990'), topic(e1, 'Telephone Call to Chancellor Helmut Kohl of Germany')] Name: TELCON - RTF\261.rtf ItemID: 81 SHA-Digest: A29C931BFD2269439F50B5ABAABB1567BA208FCB FileType: MS Rich Text Format Document QLF: [document(e1), form(e1, 'TELCON'), classification(e1, 'UNCLASSIFIED'), date(e1, 'February 13, 1990'), topic(e1, 'Telephone Call to Chancellor Helmut Kohl of The Federal Republic of Germany')] Name: WhiteHouseInformalLetter - WP 5.1 for DOS\ ItemID: 82 FileType: Directory Name: WhiteHouseInformalLetter - WP 5.1 for DOS\029.doc ItemID: 83 SHA-Digest: 62A1A110DF6A92EBFC1781E2335665AD62700B1D

FileType: WordPerfect 5.1/5.2 Document

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for Legislative Affairs
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Honorable Wayne T. Gilchrest'), date(e1, 'March 17, 1992')]
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FileType: WordPerfect 5.1/5.2 Document
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addressee(e1, e3), name(e3, 'Mr. Philip R. Lochner, Jr'), date(e1,
'April 27, 1992')]
Name: WhiteHouseInformalLetter - WP 5.1 for DOS\068.doc
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name(e2, 'John H. Sununu'), jobtitle(e2, 'Chief of Staff
addressee(e1, e3), name(e3, 'Sister Katherine T. McNamee'),
jobtitle(e3, 'President'), date(e1, 'November 22, 1991')]
Name: WhiteHouseInformalLetter - WP 5.1 for DOS\072.doc
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for Legislative Affairs '), addressee(e1, e3), name(e3, 'The
Honorable Larry Pressler'), date(e1, 'October 30, 1992')]
Name: WhiteHouseInformalLetter - WP 5.1 for DOS\076.doc
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for Legislative Affairs '), addressee(e1, e3), name(e3, 'The
Honorable Beryl Anthony, Jr.'), date(e1, 'March 17, 1992')]
Name: WhiteHouseInformalLetter - WP 5.1 for DOS\080.doc
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organizaton(e2, 'Office of the Public Liaison'), addressee(e1, e3),
name(e3, 'Mr. Richard Swan'), jobtitle(e3, 'President'), date(e1,
'March 31, 1989')]
Name: WhiteHouseInformalLetter - WP 5.1 for DOS\082.doc
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'Chairman'), date(e1, 'April 10, 1989')]
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for Public Liaison '), addressee(e1, e3), name(e3, 'Ray Allen'),
jobtitle(e3, 'President'), date(e1, 'March 27, 1990')]
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for Public Liaison '), addressee(e1, e3), name(e3, 'Ms. Lucille
Anderson'), date(e1, 'April 25, 1990')]
Name: WhiteHouseInformalLetter - WP 5.1 for DOS\112.doc
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President for Presidential Messages and Correspondence'), addressee(e1,
e3), name(e3, 'Mrs. Liard'), date(e1, 'April 12, 1992')]
Name: WhiteHouseInformalLetter - WP 5.1 for DOS\200.doc
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Nichols'), date(e1, 'August 7, 1989')]
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ItemID: 94
FileType: Directory
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PRESIDENT'), topic(e1, 'Employment and Unemployment in April, Labor
Department Release, Tomorrow Morning, 8:30 a.m'), date(e1, 'May 4,
1989')1
Name: WhiteHouseMemorandum - WP 5.1 for DOS\049.doc
ItemID: 96
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FileType: WordPerfect 5.1/5.2 Document
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addressee(e1, e4), name(e4, 'THE PRESIDENT'), topic(e1, 'Presidential
Delegation to the 25th Anniversary Celebration of the Gambia\'s
Independence.'), date(e1, 'January 29, 1990')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\078.doc
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SHA-Digest: 954D6044FF9ECB476F6488F731AB0FC32315A0FD
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name(e2, 'EDE HOLIDAY'), addressee(e1, e3), name(e3, 'SAM SKINNER'),
topic(e1, 'California Earthquake'), date(e1, 'April 27, 1992')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\093.doc
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SHA-Digest: 9894B0CB8B0C103150B6C68B58F0F12671C26317
FileType: WordPerfect 5.1/5.2 Document
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name(e2, 'ROGER B. PORTER'), addressee(e1, e3), name(e3, 'GOVERNOR
SUNUNU'), topic(e1, 'Agent Orange and Vietnam Veterans'), date(e1, 'May
25, 1989')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\094.doc
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PRESIDENT'), topic(e1, 'Civil Rights'), date(e1, 'May 20, 1990')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\095.doc
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topic(e1, 'Danforth Damages Proposal'), date(e1, 'July 13, 1990')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\102.doc
ItemID: 101
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FileType: WordPerfect 5.1/5.2 Document
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name(e2, 'Jim Cicconi'), addressee(e1, e3), name(e3, 'THE CHIEF OF
STAFF'), topic(e1, 'Disapproval of H. R. 2712: Immigration Relief for
Chinese Students'), date(e1, 'November 28, 1989')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\128.doc
ItemID: 102
SHA-Digest: 9484AC089A487131E62A11CB80E73DD8F4262659
FileType: WordPerfect 5.1/5.2 Document
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e4), name(e4, 'FRED'), member(e3, e5), name(e5, 'ROGER PORTER'),
topic(el, 'Modification of the Administration\'s Position on Minimum
Wage'), date(e1, 'October 20, 1989')]
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UNTERMEYER'), topic(e1, 'Talking Points for Governor Sununu\'s meeting
with National Endowment for the Arts Chairman John Frohnmayer'),
date(e1, 'March 2, 1990')]
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PRESIDENT FOR DOMESTIC POLICY'), addressee(e1, e4), name(e4, 'MICHAEL
E. BAROODY'), jobtitle(e4, 'ASSISTANT SECRETARY OF LABOR FOR POLICY'),
topic(e1, 'Draft Paper, "Discussion of Proposals to Increase the
Minimum Wage"'), date(e1, 'February 2, 1989')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\132.doc
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SUNUNU'), topic(e1, 'Global Climate Change Convention Negotiations'),
date(e1, 'May 31, 1990')]
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organizaton(e2, 'International Affairs'), addressee(e1, e3), set(e3),
member(e3, e4), name(e4, 'STEPHEN DANZANSKY'), jobtitle(e4, 'DEPUTY
ASSISTANT TO THE PRESIDENT'), member(e3, e5), jobtitle(e5, 'DIRECTOR OF
CABINET AFFAIRS'), topic(e1, 'World Bank Green Fund'), date(e1, 'June
7, 1990')]
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'DEPUTY ASSISTANT TO THE PRESIDENT'), member(e2, e5), jobtitle(e5,
'DIRECTOR'), organizaton(e5, 'OFFICE OF NATIONAL SERVICE'),
addressee(e1, e3), set(e3), member(e3, e6), name(e6, 'SECRETARY
NICHOLAS BRADY'), member(e3, e8), name(e8, 'DIRECTOR RICHARD DARMAN'),
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'Charitable Deductions'), date(e1, 'August 16, 1990')]
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SKINNER'), topic(e1, 'Letter to Magic Johnson'), date(e1, 'July 29,
1992')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\138.doc
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topic(e1, 'PRESSURE ON CONSERVATIVE SENATORS'), date(e1, 'February 28,
1989')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\142.doc
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topic(e1, 'SPACE ISSUES'), date(e1, 'May 3, 1989')]
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addressee(e1, e4), name(e4, 'MARLIN FITZWATER'), topic(e1,
'PRESIDENT\'S NEWS CONFERENCE ON JULY 8TH/CROATIAN- AMERICAN
REACTION'), date(e1, 'July 13, 1992')]
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PRESIDENT'), topic(e1, 'Status of the Space Advisory Committee'),
date(e1, 'November 8, 1990')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\178.doc
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FileType: WordPerfect 5.1/5.2 Document
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'Political Activity'), date(e1, 'January 9, 1990')]
Name: WhiteHouseMemorandum - WP 5.1 for DOS\180.doc
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ItemID: 114 SHA-Digest: 6433BD3A998F7D867618D97DA7703CBA1BD4564E FileType: WordPerfect 5.1/5.2 Document QLF: [document(e1), form(e1, 'White House Memorandum'), author(e1, e2), name(e2, 'ROBERT J. PORTMAN'), addressee(e1, e3), name(e3, 'C. BOYDEN GRAY'), topic(e1, 'Campaign Finance'), date(e1, 'June 27, 1989')] Name: WhiteHouseMemorandum - WP 5.1 for DOS\183.doc ItemID: 115 SHA-Digest: 19BFF01FB6FE6BC6BB89413305178C16AE96EBC9 FileType: WordPerfect 5.1/5.2 Document QLF: [document(e1), form(e1, 'White House Memorandum'), author(e1, e2), name(e2, 'C. BOYDEN GRAY'), jobtitle(e2, 'COUNSEL TO THE PRESIDENT'), addressee(e1, e3), name(e3, 'THE PRESIDENT'), topic(e1, 'Nomination of Harold E. DeMoss, Jr. to be United States Circuit Judge for the Fifth Circuit'), date(e1, 'June 26, 1991')] Name: WhiteHouseMemorandum - WP 5.1 for DOS\185.doc ItemID: 116 SHA-Digest: B1D838BBF0CEAC6A48B6DE286F37AD53F1191F16 FileType: WordPerfect 5.1/5.2 Document QLF: [document(e1), form(e1, 'White House Memorandum'), author(e1, e2), name(e2, 'C. BOYDEN GRAY'), jobtitle(e2, 'COUNSEL TO THE PRESIDENT'), addressee(e1, e3), name(e3, 'THE PRESIDENT'), topic(e1, 'Nomination of Terrence W. Boyle to be United States Circuit Judge for the Fourth Circuit'), date(e1, 'October 16, 1991')] Name: WhiteHousePressRelease Ami Pro\ ItemID: 117 FileType: Directory Name: WhiteHousePressRelease Ami Pro\003.sam ItemID: 118 SHA-Digest: 1323A858247FF341E432141BC699F046D52A3B08 FileType: Ami Professional Document QLF: [document(e1), form(e1, 'White House Press Release'), headline(e1, 'STATEMENT BY THE PRESS SECRETARY'), date(e1, 'October 2, 1990') Name: WhiteHousePressRelease Ami Pro\051.sam ItemID: 119 SHA-Digest: AB88450772225BF1755085B6743141E5FCD7864A FileType: Ami Professional Document QLF: [document(e1), form(e1, 'White House Press Release'), headline(e1, 'Missing'), date(e1, 'October 2, 1990')] Name: WhiteHousePressRelease Ami Pro\052.sam ItemID: 120 SHA-Digest: 8B2FC34C275B6A7465FEBDB6AD606114DBEFF4CB FileType: Ami Professional Document QLF: [document(e1), form(e1, 'White House Press Release'), headline(e1, 'ENERGY AWARENESS MONTH, 1990'), date(e1, 'October 2, 1990')] Name: WhiteHousePressRelease Ami Pro\118.sam ItemID: 121 SHA-Digest: 216684CA5D78A8A7ED5701F521BE35AADF86A791 FileType: Ami Professional Document

QLF: [document(e1), form(e1, 'White House Press Release'), headline(e1, 'Nomination of John Schrote To Be an Assistant Secretary of the Interior'), date(e1, 'April 2, 1991')] Name: WhiteHousePressRelease Ami Pro\123.sam ItemID: 122 SHA-Digest: C86E4C5125139ED8D8B003E46BD34457FD54A2FD FileType: Ami Professional Document QLF: [document(e1), form(e1, 'White House Press Release'), headline(e1, 'Missing'), date(e1, 'January 20, 1989')] Name: WhiteHousePressRelease Ami Pro\124.sam ItemID: 123 SHA-Digest: 73365EB8BCA59E12C2B0AA34DEFA415239C3A00E FileType: Ami Professional Document QLF: [document(e1), form(e1, 'White House Press Release'), headline(e1, 'Address Before a Joint Session of the Congress on the State of the Union'), date(e1, 'January 31, 1990')] Name: WhiteHousePressRelease Ami Pro\125.sam ItemID: 124 SHA-Digest: 53E26DE4D5EDBB6AAB931A25D127DF394B5EE2DB FileType: Ami Professional Document QLF: [document(e1), form(e1, 'White House Press Release'), headline(e1, 'Address to the Nation Announcing United States Military Action in Panama'), date(e1, 'December 20, 1989')] Name: WhiteHouseReferral - RFT-DCA\ ItemID: 125 FileType: Directory Name: WhiteHouseReferral - RFT-DCA\075.rft ItemID: 126 SHA-Digest: AFEAC388814211004DD81E772F174C6BA05FE991 FileType: DCA-RFT Document QLF: [document(e1), form(e1, 'Referral'), author(e1, e2), name(e2, 'SALLY KELLEY'), jobtitle(e2, 'DIRECTOR OF AGENCY LIAISON PRESIDENTIAL CORRESPONDENCE'), addressee(e1, 'FEDERAL EMERGENCY MANAGEMENT AGENCY'), action(e1, 'APPROPRIATE ACTION'), topic(e1, 'URGES THE PRESIDENT TO DECLARE UNION COUNTY IN ARKANSAS A MAJOR FEDERAL DISASTER AREA AS A RESULT OF DAMAGE CAUSED BY TORNADOES'), date(e1, 'MARCH 26, 1992')] Name: WhiteHouseReferral - RFT-DCA\199.rft ItemID: 127 SHA-Digest: F6FAC4BE470467C5C2C1B6BBAFE5E64806BA65F2 FileType: DCA-RFT Document QLF: [document(e1), form(e1, 'Referral'), author(e1, e2), name(e2, 'SALLY KELLEY'), jobtitle(e2, 'DIRECTOR OF AGENCY LIAISON PRESIDENTIAL CORRESPONDENCE'), addressee(e1, 'DEPARTMENT OF STATE'), action(e1, 'APPROPRIATE ACTION'), topic(e1, 'APPEALS FOR HELP IN BRINGING AN END TO THE CONTINUING HUMAN RIGHTS VIOLATIONS IN TIBET AND TO ENCFOURAGE THE CHINESE GOVERNMENT TO FIND A PEACEFUL SOLUTION THROUGH NEGOTIATIONS'), date(e1, 'MARCH 15, 1989')] Name: WhiteHouseReferral - RFT-DCA\256.rft ItemID: 128

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FileType: DCA-RFT Document
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Name: WhiteHouseReferral - RFT-DCA $\257.rft$

ItemID: 129

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Name: WhiteHouseReferral - RFT-DCA\258.rft

ItemID: 130

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Name: WhiteHouseReferral - RFT-DCA\259.rft

ItemID: 131

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Name: WhiteHouseReferral - RFT-DCA\260.rft

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Name: WhiteHouseReferral - RFT-DCA\266.rft

ItemID: 133

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FileType: DCA-RFT Document

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