Global Information Access, Local Information Management The Story of IRS Tax Map

Michel Biezunski Infoloom Steve Newcomb Coolheads Consulting

March 8, 2010 XML SIG New York Morgan Stanley

Michel Biezunski and Steve Newcomb

Outline

- why Tax Map started
- a Tax Map tour
- bottom-up
- symbols versus meanings
- Tax Map's process
- a topic map
- auditing Tax Map
- lessons learned

Why Tax Map Started

- IRS responding to criticism:
 - Information delivered to taxpayers lacked accuracy.
 - Telephone assistors had a hard time finding what was needed.



Search All Topics:

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Search Tax Map By Topic

IRS Tax Map

Updated March 2, 2010

Main Topics A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

> FAQs Forms Publications Tax Topics

Comments About Tax Map



Browse Tax Map Products

(approximately 400) to start your search

Frequently Asked Questions - Browse a list of tax law frequently asked questions arranged by category and subcategory

Search All Topics - Search all 5000 topics in Tax Map. Using as few words as

Main Topics - Select a letter and browse through a list of frequently used topics

possible, type in the word(s) that represent the topic you are looking for

Public version:

http://taxmap.ntis.gov

Forms and Publications - Browse a list of Tax Forms and Publications

Tax Topics - Browse more than 150 topics written for Tele-Tax Topics, the IRS telephone response system







Search All Topics:

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Compensation, Wage, Salary

Compensation

Salary

Wage

Forms and Instructions

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> FAQs Forms Publications **Tax Topics**

Comments About Tax Map

Form	W-2 Wage and Tax Statement (Info Copy Only)
	W-2 Instructions for Forms W-2 and W-3,
	Wage and Tax Statement and Transmittal
	of Wage and Tax Statements
Form	W-2AS American Samoa Wage and Tax
Stater	ment (Info Copy Only)

Form W-2C Corrected Wage and Tax Statement (Info Copy Only)

W-2C Instructions for Forms W-2c and W-3c, Corrected Wage and Tax Statement and Transmittal of Corrected Wage and Tax Statements

Form W-2GU Guam Wage and Tax Statement (Info Owner Owler

Related Topic Links

> 2. Special Wage Payments > 501(c)(27) - State-Sponsored Workers' Compensation Reinsurance Organizations

- > Adjustment, Withholding
- > Advance commissions and other earnings.
- Back pay awards.

MORE

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MORE

- Bonuses and awards.
- Child's wages used for own support
- Compensation for Labor or
- Personal Services
- Cumulative Wage Method
- Deferred Compensation Plan
- Differential wage payments.
 - Earned Income

Publications

Publication 15 Circular E, Employer's Tax	INDEX	PDF	MORE
Guide			
Publication 15-A Employer's	INDEX	PDF	MORE
Supplemental Tax Guide (Supplement to			
Circular E, Employer's Tax Guide,			
Publication 15)			
Publication 15-B Employer's Tax Guide to	INDEX	PDF	MORE
Fringe Benefits			
Publication 15-T New Wage Withholding		PDF	MORE
and Advanced Earned Income Credit			
Payment Tables (for wages paid through			
December 2009)			
Publication 505 Tax Withholding and	INDEX	PDF	MORE
Estimated Tax			
		PDF	mner

Links Inside Publications

Publication 15 - Circular E, Employer's Tax Guide - 5. Wages and Other Compensation

Wages and Other Compensation. Wages subject to federal employment taxes generally include all pay you give...

Publication 15-A - Employer's Supplemental Tax Guide (Supplement to Circular E, Employer's Tax Guide, Publication 15) - 5. Wages and Other Compensation

 Wages and Other Compensation. Publication 15 (Circular E) provides a general discussion of taxable wages....

Publication 17 - Your Federal Income Tax (For Individuals)

Tax Withholding and Estimated Tax

Salaries and Wages. Income tax is withheld from the pay of most employees. Your pay includes your regular...

Frequently Asked Questions

FAQ - Interest/Dividends/Other Types of Income > Ministers' Compensation & Housing Allowance

A minister receives a salary plus a housing allowance. Is the housing allowance income? Where does the minister...

FAQ - Small Business/Self-Employed/Other Business > Entities: Sole Proprietor, Partnership, Limited Liability Company/Partnership (LLC/LLP), Corporation, Subchapter S Corporation

Are partners considered employees of a partnership or are they self-employed? Partners of a partnership are...

TeleTax

TeleTax 401

Wages and Salaries. 401Wages, salaries, and tips received by an employee for performing services for an employer...



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> W-2C Instructions for Forms W-2c and W-3c, Corrected Wage and Tax Statement and Transmittal of Corrected Wage and Tax Statements

Form W-2GU Guam Wage and Tax Statement (Info

Related Topic Links

> 2. Special Wage Payments

> 501(c)(27) - State-Sponsored

Workers' Compensation Reinsurance Organizations

- > Adjustment, Withholding
- Advance commissions and other earnings.
- > Back pay awards.

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- > Bonuses and awards.
- > Child's wages used for own support
- > Compensation for Labor or
- Personal Services
- ➤ Cumulative Wage Method
- Deferred Compensation Plan
- Differential wage payments.
 - ≻ Earned Income



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Form W-2--Wage and Tax Statement (Info Copy Only)

Forms Publications FAQs

Forms and Instructions

Form W-2 Wage and Tax Statement (Info Copy Only) W-2 Instructions for Forms W-2 and W-3, Wage and Tax Statement and Transmittal of Wage and Tax Statements

Related Forms

Form W-2AS American Samoa Wage and Tax Statement (Info Copy Only)

Form W-2C Corrected Wage and Tax Statement (Info Copy Only)

W-2C Instructions for Forms W-2c and W-3c, Corrected Wage and Tax Statement and Transmittal of Corrected Wage and Tax Statements

Form W-2GU Guam Wage and Tax Statement (Info Copy Only)

Related Topic Links

- Compensation, Wage, Salary
- ➤ Form W-2 From Church
- ➤ Form W-2 From College
- ➤ Form W-2 Wage Reporting
- ≻ Form W-2.
- ≻ Forms W-2 and W-2G.
- Information Returns
- > Reporting SEP Contributions on
- Form W-2

MORE

MORE

- ➤ Substitute Forms
- ≻ Withholding

Wage and Tax Statement (Info ...

Publications

Links Inside Publications

♣

Publication 17 - Your Federal Income Tax (For Individuals)

- Credit for Withholding and Estimated Tax for 2009

Form W-2. Your employer is required to provide or send Form W-2 to you no later than February 1, 2010. You...

Publication 505 - Tax Withholding and Estimated Tax -Credit for Withholding and Estimated Tax for 2009

Form W-2. Your employer is required to provide or send Form W-2 to you no later than February 1, 2010. You...

Frequently Asked Questions

FAQ - IRS Procedures > W-2 - Additional, Incorrect, Lost, Non-receipt, Omitted

May an employer provide me my Form W-2 electronically? Yes, an employer may furnish your (PDF) electronically...

FAQ - IRS Procedures > W-2 - Additional, Incorrect, Lost, Non-receipt, Omitted

I received an incorrect W-2 form. I can't get my former employer to issue a corrected W-2? What should I do?...

Links Inside Publications

Publication 15 - Circular E, Employer's Tax Guide - 5. Wages and Other Compensation

Wages and Other Compensation. Wages subject to federal employment taxes generally include all pay you give...

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Comments About Tax Map

5. Wages and Other Compensation (p10)

Wages subject to federal employment taxes generally include all pay you give to an employee for services performed. The pay may be in cash or in other forms. It includes salaries, vacation allowances, bonuses, commissions, and fringe benefits. It does not matter how you measure or make the payments. Amounts an employer pays as a bonus for signing or ratifying a contract in connection with the establishment of an employer-employee relationship and an amount paid to an employee for cancellation of an employment contract and relinquishment of contract rights are wages subject to social security, Medicare, and federal unemployment taxes and income tax withholding. Also, compensation paid to a former employee for services performed while still employed is wages subject to employment taxes.

< Compensation, Wage, Salar >

More information. (p11)

See section 6 for a discussion of tips and section 7 for a discussion of supplemental

Search All Topics: GO Search Help Navigation Help	Chapter 5 Wages, Salaries, and Other	≺ Compensation, Wage, Salar
Main Topics A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #	Earnings (p47)	
FAQs Forms Publications	What's New (p47)	

Comments About Tax Map

Tax Topics

Differential wage payments. (p47)

4

Payments made by an employer to an individual for any period during which the individual is an active duty member of the uniformed services are treated as wages. See the discussion under Miscellaneous Compensation.

Bicycle commuters. (p47)

The qualified employer transportation fringe benefit is expanded to include any qualified bicycle commuting reimbursement. See Transportation under Fringe Benefits.

Wages and Salaries			
TAX PRODUCTS IRS TAX MAP 2009	✓Previous Page: Types of Income > Next Page: Interest Received Use ≺> to find additional instances of index items.		
Search All Topics:			
GO	Rev. date: 11/2005		
Search Help Navigation Help	≺ Compensation, Wage, Salary ≻		
Main Topics A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #	Wages and Salaries		
FAQs	Tele-Tax Topic 401		
Publications Tax Topics	Wages, salaries, and tips received by an employee for performing services for an employer must be included in your gross income. Amounts withheld for taxes, including		
Comments About Tax Map	but not limited to income tax, social security and Medicare taxes are considered "received" and must be included in gross income in the year they are withheld. Generally, your employer's contribution to a qualified pension plan for you is not included in gross income at the time it is contributed. However, amounts withheld under certain salary reduction agreements with your employer may have to be included in gross income in the year they are withheld. See Publication 17, Chapter 5, <i>Wages Salaries and Other Earnings</i> , and Chapter 6, <i>Tip Income</i> , for specific information.		

Your employer should provide a Form W-2 showing your total income and withholding. You



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Form W-2GU Guam Wage and Tax Statement (Info Owner Owler

Related Topic Links

> 2. Special Wage Payments > 501(c)(27) - State-Sponsored Workers' Compensation Reinsurance Organizations

- > Adjustment, Withholding
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lack pay awards.



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Back pay awards.

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Publications

Publications

Links Inside Publications

Publication 17 - Your Federal Income Tax (For Individuals) - Wages, Salaries, and Other Earnings

Back pay awards. Include in income amounts you are awarded in a settlement or judgment for back pay. These...

Related Topic Links

≻ Back Pay

Compensation, Wage, Salary

No workflow change

- IRS didn't want to change anything in their production processes.
- Using Topic Maps would not require changing anything.
- So let's see why...

1 term, 1 subject



3/8/2010

Michel Biezunski and Steve Newcomb

1 world, 1 term, 1 subject



20

4 worlds, 5 terms, 1 subject



1 topic



3/8/2010

Every topic has 1 subject



3 Strategies

	Full text Searching	Colocation by subject	Artificial Intelligence	•
	You need to know the vocabulary And be lucky	Able to exploit the common sense and multiple community memberships of others	One world. Machine inferencing.	
\$	50		\$	\$\$
3/8/2	2010 Mic	chel Biezunski and Steve New	comb 2	4

Tax Map's Process

Editorial Product:

- Ingest the source materials emanating from diverse communities.
- Integrate the knowledge about each subject.
- Make renderings customized for various audiences.

Tax Map Rules Processing

- Containment
- Three words in common
- Patterns in topic names (e.g. "step x")
- Plural and singular nouns

Input of Tax Experts

- Annual workshops
- Handling new topic names
- Tweaking the results of Tax Map processing

Tax Map as a Topic Map

- XTM model served to design the initial model: Topics, Occurrences, Associations
- In Tax Map, some occurrences also are topics: publications, forms.
- Presentation blurs distinction between occurrences and associations.

Tax Map Auditing

• All processes acting on all topic names are recorded,

including the names that are deleted, renamed, synonymized, or recognized as related to others.

- Based on the "Data Projection Model"
 - inspired by RDF (triples)
 - general "Semantic Microscope"
 - considers topic names as "accounts"

Compensation

Index

TaxMap

1	alternate name PFT	Compensation, Wage, Salary	>
2	privileged name is	Compensation, Wage, Salary	>
3 < What Is Compensation?	replaced PFT by		
4	disrelated:Comma-Other Topic-0 occ	Allowance, Differential, and Other Special Pay	>
5	disrelated:Comma-Other Topic-0 occ	Compensation, Miscellaneous	>
6	disrelated:Comma-Other Topic-0 occ	Includible Compensation, Change	>
7	disrelated:Comma-Other Topic-0 occ	Pay, Kinds	>
8	disrelated:Comma-Other Topic-0 occ	Wage Paid, Graduated Withholding	>
9	disrelated:Comma-Other Topic-0 occ	Wage, Pension, or Annuity	>
10	disrelated:Comma-Other Topic-0 occ	Wage, Supplemental	>

Compensation	<u>ት</u>	
11		Topic-0 occ
12 < 501(c)(27) - State-Spons Compensation Reinsural	ored Workers' nce Organizations	related by containment
13 < Compensation for Labor	or Personal	related by containment
14 < Compensation for Servic	es	related by containment
15 < Compensation Information	on	related by containment
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17 < Compensation, Wage, S	alary	related by containment
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19 < Determining the Source of for Labor or Personal Se	of Compensation rvices	related by containment
20 < Employee Compensation	n Record	related by containment
21 < Employee Compensation	<u>1</u>	related by containment
22 < <u>Exemption From Withho</u> 22 < <u>Compensation for Independent</u> <u>Certain Dependent</u>) Pers	-	related by containment

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- 25 < Includible Compensation for Your Most Recent Year of Service
- 26 < Includible Compensation, Change
- 27 < Includible Compensation
- 28 < Nonemployee Compensation
- 29 < <u>Nonqualified Deferred Compensation and</u> <u>Section 457 Plans</u>
- 30 < Nonqualified deferred compensation plans.
- 31 < Not Compensation
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266	< F13206	Deleted Topic Names	ii	n product database, inactive
267	< F13217		i	n product database, inactive
268	< F13266		i	n product database, inactive
269	< F13582		i	n product database, inactive
270	< F13315		<u>ir</u>	n product database, inactive
271	< F13614		ir	n product database, inactive
272	< F13614SP		i	n product database, inactive
273	< IITEST		i	n product database, inactive
274	< Line 6 (Parent	's Taxable Income)	F	RegExp
275	< Step 2. Figurin Rate (Form 86	ng a Tentative Tax at the Parent's Tax S15, Part II)	F	RegExp
276	< Line 1 (Investr	ment Income)	F	RegExp
277	< <u>Step 1. Figurin</u> (Form 8615, P	ng the Child's Net Investment Income Part I)	F	RegExp
278	< Line 3		F	RegExp
279	< Line 2 (Deduct	tions)	F	RegExp

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- 349 < Box 10-Country
- 350 < Box 1-Name
- 351 < Box 4-Benefits Repaid to SSA in 2008
- 352 < Box 2-Beneficiary's Social Security Number
- 353 < Box 5-Net Benefits for 2008
- 354 < Schedules (Form 1040) D
- 355 < Schedule D, (Form 1040), how to report
- 356 < Examination of Returns, Appeal Rights, and Claims for Refund
- 357 < HOW TO GET MORE INFORMATION
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1267 < Forms 1099

1268 < Fuel

1269 < F940 and 940-EZ Employer's Annual Federal Unemployment Tax Returns

1270 < F940 and 940-EZ

1271 < <u>FUTA</u>

1272 < Federal Unemployment (FUTA) Tax-U.S. Virgin Islands Employers Only

1273 < <u>F8027</u>

1274 < <u>F8027T</u>

1275 < 2003 Withholding Rate Changes

1276 < 2007 Estimated Tax Worksheet

1277 < <u>AEIC</u>

1278 < ATF Form 5630.5

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Lessons learned

• Reality is semantically messy.

There are multiple perspectives on reality, and we'd better respect them.

- Nobody can prevent information from changing all the time. Accommodate change!
- Knowledge integration skills are different from domain specific skills and sometimes the reflexes conflict.
- Perfection is not affordable and not necessary.

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Questions?

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