

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). <p style="text-align: center;">▶ Complete all entries in accordance with the instructions to the Form 5500.</p>	OMB Nos. 1210-0110 1210-0089 2018 This Form is Open to Public Inspection
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Part I	Annual Report Identification Information For calendar plan year 2018 or fiscal plan year beginning <u>01/01/2018</u> and ending <u>12/31/2018</u>
A This return/report is for:	☐ a multiemployer plan ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.) ☒ a single-employer plan ☐ a DFE (specify) _____
B This return/report is:	☐ the first return/report ☐ the final return/report ☒ an amended return/report ☐ a short plan year return/report (less than 12 months)
C If the plan is a collectively-bargained plan, check here. ▶	☐
D Check box if filing under:	☒ Form 5558 ☐ automatic extension ☐ the DFVC program ☐ special extension (enter description)

Part II	Basic Plan Information—enter all requested information		
1a Name of plan <u>ROGUE WAVE SOFTWARE, INC. EMPLOYEES 401(K) PLAN</u>	1b Three-digit plan number (PN) ▶	<u>001</u>	
2a Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) <u>ROGUE WAVE SOFTWARE, INC.</u> <u>1315 WEST CENTURY DRIVE</u> <u>SUITE 150</u> <u>LOUISVILLE, CO 80027</u>	1c Effective date of plan <u>05/12/1989</u>	2b Employer Identification Number (EIN) <u>85-0373486</u>	2c Plan Sponsor's telephone number <u>303-473-9118</u>
		2d Business code (see instructions) <u>621399</u>	

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	<u>01/27/2020</u>	<u>CHRISTY DINGES</u>
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE			
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

Form 5500 (2018)
v. 171027

3a Plan administrator's name and address ☐ Same as Plan Sponsor ROGUE WAVE SOFTWARE, INC. 1315 WEST CENTURY DRIVE, SUITE 150 LOUISVILLE, CO 80027	3b Administrator's EIN 85-0373486 3c Administrator's telephone number 303-473-9118
4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report: a Sponsor's name c Plan Name	4b EIN 4d PN
5 Total number of participants at the beginning of the plan year	5 404
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines 6a(1) , 6a(2) , 6b , 6c , and 6d). a(1) Total number of active participants at the beginning of the plan year a(2) Total number of active participants at the end of the plan year b Retired or separated participants receiving benefits..... c Other retired or separated participants entitled to future benefits d Subtotal. Add lines 6a(2) , 6b , and 6c e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits. f Total. Add lines 6d and 6e g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item) h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	6a(1) 197 6a(2) 244 6b 0 6c 282 6d 526 6e 0 6f 526 6g 446 6h 38
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)	7
8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions: 2F 2G 2J 2K 2R 2T 3D b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:	

9a Plan funding arrangement (check all that apply) (1) ☒ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☒ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor
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10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

a Pension Schedules

- (1)** ☒ **R** (Retirement Plan Information)
- (2)** ☐ **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
- (3)** ☐ **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- (1)** ☒ **H** (Financial Information)
- (2)** ☐ **I** (Financial Information – Small Plan)
- (3)** ☒ 1 **A** (Insurance Information)
- (4)** ☒ **C** (Service Provider Information)
- (5)** ☒ **D** (DFE/Participating Plan Information)
- (6)** ☐ **G** (Financial Transaction Schedules)

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2018 Form M-1 annual report. If the plan was not required to file the 2018 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

SCHEDULE A (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Insurance Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ File as an attachment to Form 5500. ▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).	OMB No. 1210-0110 2018 This Form is Open to Public Inspection
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For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018		
A Name of plan ROGUE WAVE SOFTWARE, INC. EMPLOYEES 401(K) PLAN	B Three-digit plan number (PN) ▶	001
C Plan sponsor's name as shown on line 2a of Form 5500 ROGUE WAVE SOFTWARE, INC.	D Employer Identification Number (EIN) 85-0373486	

Part I	Information Concerning Insurance Contract Coverage, Fees, and Commissions Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.
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1 Coverage Information:

(a) Name of insurance carrier JOHN HANCOCK LIFE INSURANCE COMPANY U.S.A.
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(b) EIN	(c) NAIC code	(d) Contract or identification number	(e) Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	(g) To
01-0233346	65838	101646	446	01/01/2018	12/31/2018

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid 69846	(b) Total amount of fees paid 27111
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3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).
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(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid OPPENHEIMER LIFE AGENCY, LTD 1400 WOODLOCH FOREST DRIVE, STE 250 THE WOODLANDS, TN 77380

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	
69846			3

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid THE ANGELL PENSION GROUP, INC. 88 BOYD AVENUE EAST PROVIDENCE, RI 02914
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(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	
	27111	TPA FEES	5

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4 Current value of plan's interest under this contract in the general account at year end	4	
5 Current value of plan's interest under this contract in separate accounts at year end	5	37659060

6 Contracts With Allocated Funds:**a** State the basis of premium rates ▶

b Premiums paid to carrier.....	6b	
c Premiums due but unpaid at the end of the year.....	6c	
d If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount. Specify nature of costs ▶	6d	

e Type of contract: (1) ☐ individual policies (2) ☐ group deferred annuity
(3) ☐ other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ ☐**7** Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) ☐ deposit administration (2) ☐ immediate participation guarantee
(3) ☐ guaranteed investment (4) ☐ other ▶

b Balance at the end of the previous year.....	7b	0
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c Additions: (1) Contributions deposited during the year	7c(1)		
(2) Dividends and credits	7c(2)		
(3) Interest credited during the year	7c(3)		
(4) Transferred from separate account.....	7c(4)		
(5) Other (specify below)	7c(5)		
▶			

(6) Total additions.....	7c(6)	0
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d Total of balance and additions (add lines 7b and 7c(6))	7d	0
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e Deductions:			
(1) Disbursed from fund to pay benefits or purchase annuities during year	7e(1)		
(2) Administration charge made by carrier	7e(2)		
(3) Transferred to separate account.....	7e(3)		
(4) Other (specify below)	7e(4)		
▶			

(5) Total deductions.....	7e(5)	0
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f Balance at the end of the current year (subtract line 7e(5) from line 7d)	7f	0
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Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

- a** ☐ Health (other than dental or vision)
 b ☐ Dental
 c ☐ Vision
 d ☐ Life insurance
e ☐ Temporary disability (accident and sickness)
 f ☐ Long-term disability
 g ☐ Supplemental unemployment
 h ☐ Prescription drug
i ☐ Stop loss (large deductible)
 j ☐ HMO contract
 k ☐ PPO contract
 l ☐ Indemnity contract
m ☐ Other (specify) ▶

9 Experience-rated contracts:

a Premiums: (1) Amount received	9a(1)		
(2) Increase (decrease) in amount due but unpaid	9a(2)		
(3) Increase (decrease) in unearned premium reserve	9a(3)		
(4) Earned ((1) + (2) - (3))		9a(4)	0
b Benefit charges (1) Claims paid	9b(1)		
(2) Increase (decrease) in claim reserves	9b(2)		
(3) Incurred claims (add (1) and (2))		9b(3)	0
(4) Claims charged		9b(4)	
c Remainder of premium: (1) Retention charges (on an accrual basis) --			
(A) Commissions	9c(1)(A)		
(B) Administrative service or other fees	9c(1)(B)		
(C) Other specific acquisition costs	9c(1)(C)		
(D) Other expenses	9c(1)(D)		
(E) Taxes	9c(1)(E)		
(F) Charges for risks or other contingencies	9c(1)(F)		
(G) Other retention charges	9c(1)(G)		
(H) Total retention		9c(1)(H)	0
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)		9c(2)	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement		9d(1)	
(2) Claim reserves		9d(2)	
(3) Other reserves		9d(3)	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line 9c(2).)		9e	

10 Nonexperience-rated contracts:

a Total premiums or subscription charges paid to carrier	10a	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount	10b	

Specify nature of costs.

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

<div>SCHEDULE C</div> <div>(Form 5500)</div> <div>Department of the Treasury Internal Revenue Service</div> <div>Department of Labor Employee Benefits Security Administration</div> <div>Pension Benefit Guaranty Corporation</div>	<div>Service Provider Information</div> <div>This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA).</div> <div>▶ File as an attachment to Form 5500.</div>	OMB No. 1210-0110
		2018
		This Form is Open to Public Inspection.

For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018		
A Name of plan ROGUE WAVE SOFTWARE, INC. EMPLOYEES 401(K) PLAN	B Three-digit plan number (PN) ▶	001
C Plan sponsor's name as shown on line 2a of Form 5500 ROGUE WAVE SOFTWARE, INC.	D Employer Identification Number (EIN) 85-0373486	

Part I	Service Provider Information (see instructions)
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You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions)..... ☐ Yes ☒ No

b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
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2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

JOHN HANCOCK LIFE INSURANCE COMPANY

01-0233346

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
15 28 59 60 62 63 68	RECORDKEEPER	1865	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☒ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide

Part III Termination Information on Accountants and Enrolled Actuaries (see instructions)
(complete as many entries as needed)

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

SCHEDULE D (Form 5500) <small>Department of the Treasury Internal Revenue Service</small> <small>Department of Labor Employee Benefits Security Administration</small>	DFE/Participating Plan Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2018 This Form is Open to Public Inspection.
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For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018

A Name of plan <u>ROGUE WAVE SOFTWARE, INC. EMPLOYEES 401(K) PLAN</u>	B Three-digit plan number (PN)	<u>001</u>
C Plan or DFE sponsor's name as shown on line 2a of Form 5500 <u>ROGUE WAVE SOFTWARE, INC.</u>	D Employer Identification Number (EIN) <u>85-0373486</u>	

Part I	Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs) (Complete as many entries as needed to report all interests in DFEs)
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a Name of MTIA, CCT, PSA, or 103-12 IE: <u>VANGUARD TARGET RET 2045</u>				
b Name of sponsor of entity listed in (a): <u>JOHN HANCOCK USA</u>				
c EIN-PN <u>01-0233346-000</u>	d Entity code <u>P</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>1739329</u>		
a Name of MTIA, CCT, PSA, or 103-12 IE: <u>VANGUARD TARGET RET 2040</u>				
b Name of sponsor of entity listed in (a): <u>JOHN HANCOCK USA</u>				
c EIN-PN <u>01-0233346-000</u>	d Entity code <u>P</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>1478711</u>		
a Name of MTIA, CCT, PSA, or 103-12 IE: <u>VANGUARD TARGET RET 2035</u>				
b Name of sponsor of entity listed in (a): <u>JOHN HANCOCK USA</u>				
c EIN-PN <u>01-0233346-000</u>	d Entity code <u>P</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>1945449</u>		
a Name of MTIA, CCT, PSA, or 103-12 IE: <u>VANGUARD TARGET RET 2030</u>				
b Name of sponsor of entity listed in (a): <u>JOHN HANCOCK USA</u>				
c EIN-PN <u>01-0233346-000</u>	d Entity code <u>P</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>1887795</u>		
a Name of MTIA, CCT, PSA, or 103-12 IE: <u>VANGUARD TARGET RET 2025</u>				
b Name of sponsor of entity listed in (a): <u>JOHN HANCOCK USA</u>				
c EIN-PN <u>01-0233346-000</u>	d Entity code <u>P</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>358187</u>		
a Name of MTIA, CCT, PSA, or 103-12 IE: <u>VANGUARD TARGET RET 2020</u>				
b Name of sponsor of entity listed in (a): <u>JOHN HANCOCK USA</u>				
c EIN-PN <u>01-0233346-000</u>	d Entity code <u>P</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>1222816</u>		
a Name of MTIA, CCT, PSA, or 103-12 IE: <u>PIMCO INCOME FUND</u>				
b Name of sponsor of entity listed in (a): <u>JOHN HANCOCK USA</u>				
c EIN-PN <u>01-0233346-000</u>	d Entity code <u>P</u>	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) <u>5300</u>		

a Name of MTIA, CCT, PSA, or 103-12 IE: VANGUARD TARGET RET INCOME		
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA		
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 167881
a Name of MTIA, CCT, PSA, or 103-12 IE: JH LS AGG ACTIVE STRATEGY		
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA		
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 538117
a Name of MTIA, CCT, PSA, or 103-12 IE: JH LS GROW ACTIVE STRATEGY		
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA		
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 1427598
a Name of MTIA, CCT, PSA, or 103-12 IE: JH LS BAL ACTIVE STRATEGY		
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA		
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 1340371
a Name of MTIA, CCT, PSA, or 103-12 IE: JH LS MOD ACTIVE STRATEGY		
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA		
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 217782
a Name of MTIA, CCT, PSA, or 103-12 IE: JH LS CON ACTIVE STRATEGY		
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA		
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 262308
a Name of MTIA, CCT, PSA, or 103-12 IE: DFA EMERGING MARKETS VALUE		
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA		
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 55963
a Name of MTIA, CCT, PSA, or 103-12 IE: ROYCE OPPORTUNITY		
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA		
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 32409
a Name of MTIA, CCT, PSA, or 103-12 IE: INTERNATIONAL VALUE FUND		
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA		
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 80256
a Name of MTIA, CCT, PSA, or 103-12 IE: DFA US TARGETED VALUE FUND		
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA		
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 223207

a Name of MTIA, CCT, PSA, or 103-12 IE: T. ROWE PRICE SCI & TECH			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 551613	
a Name of MTIA, CCT, PSA, or 103-12 IE: VANGUARD SMALL CAP GROW INDEX			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 657718	
a Name of MTIA, CCT, PSA, or 103-12 IE: OPPENHEIMER DEVELOPING MKT			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 77249	
a Name of MTIA, CCT, PSA, or 103-12 IE: INTL EQUITY INDEX FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 456056	
a Name of MTIA, CCT, PSA, or 103-12 IE: DFA U.S. SMALL CAP FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 49469	
a Name of MTIA, CCT, PSA, or 103-12 IE: SMALL CAP INDEX FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 822976	
a Name of MTIA, CCT, PSA, or 103-12 IE: EUROPACIFIC GROWTH FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 351591	
a Name of MTIA, CCT, PSA, or 103-12 IE: OPPENHEIMER INTL GROWTH FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 330662	
a Name of MTIA, CCT, PSA, or 103-12 IE: T. ROWE PRICE HEALTH SCI			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 627012	
a Name of MTIA, CCT, PSA, or 103-12 IE: MID CAP INDEX FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 1130169	

a Name of MTIA, CCT, PSA, or 103-12 IE: BLUE CHIP GROWTH FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 3520579	
a Name of MTIA, CCT, PSA, or 103-12 IE: MFS VALUE FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 928468	
a Name of MTIA, CCT, PSA, or 103-12 IE: MASSACHUSETTS INVESTORS FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 447730	
a Name of MTIA, CCT, PSA, or 103-12 IE: MID VALUE FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 866343	
a Name of MTIA, CCT, PSA, or 103-12 IE: 500 INDEX FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 4980547	
a Name of MTIA, CCT, PSA, or 103-12 IE: PIMCO ALL ASSET			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 102281	
a Name of MTIA, CCT, PSA, or 103-12 IE: TEMPLETON GLOBAL BOND FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 159453	
a Name of MTIA, CCT, PSA, or 103-12 IE: U.S. HIGH YIELD BOND FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 347546	
a Name of MTIA, CCT, PSA, or 103-12 IE: TOTAL BOND FUND			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 1132642	
a Name of MTIA, CCT, PSA, or 103-12 IE: JOHN HANCOCK STABLE VAL			
b Name of sponsor of entity listed in (a): JOHN HANCOCK USA			
c EIN-PN 01-0233346-000	d Entity code C	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 2549878	

a Name of MTIA, CCT, PSA, or 103-12 IE: **VANGUARD TARGET RET 2050**

b Name of sponsor of entity listed in (a): **JOHN HANCOCK USA**

c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 389426
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a Name of MTIA, CCT, PSA, or 103-12 IE: **VANGUARD TARGET RET 2055**

b Name of sponsor of entity listed in (a): **JOHN HANCOCK USA**

c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 1003808
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a Name of MTIA, CCT, PSA, or 103-12 IE: **VANGUARD TARGET RET 2060**

b Name of sponsor of entity listed in (a): **JOHN HANCOCK USA**

c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 545689
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a Name of MTIA, CCT, PSA, or 103-12 IE: **WELLS FARGO CORE BOND FUND**

b Name of sponsor of entity listed in (a): **JOHN HANCOCK USA**

c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 184481
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a Name of MTIA, CCT, PSA, or 103-12 IE: **HARTFORD MIDCAP FUND**

b Name of sponsor of entity listed in (a): **JOHN HANCOCK USA**

c EIN-PN 01-0233346-000	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 724638
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a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
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a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
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a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
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a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
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a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
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Part II Information on Participating Plans (to be completed by DFEs)

(Complete as many entries as needed to report all participating plans)

a Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
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plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN

SCHEDULE H (Form 5500) <small>Department of the Treasury Internal Revenue Service</small> <small>Department of Labor Employee Benefits Security Administration</small> <small>Pension Benefit Guaranty Corporation</small>	Financial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2018 This Form is Open to Public Inspection
For calendar plan year 2018 or fiscal plan year beginning <u>01/01/2018</u> and ending <u>12/31/2018</u>		
A Name of plan <u>ROGUE WAVE SOFTWARE, INC. EMPLOYEES 401(K) PLAN</u>	B Three-digit plan number (PN) ►	<u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>ROGUE WAVE SOFTWARE, INC.</u>	D Employer Identification Number (EIN) <u>85-0373486</u>	

Part I	Asset and Liability Statement		(a) Beginning of Year	(b) End of Year
1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.				
	Assets			
a	Total noninterest-bearing cash	1a	12820	63456
b	Receivables (less allowance for doubtful accounts):			
	(1) Employer contributions.....	1b(1)		
	(2) Participant contributions	1b(2)		
	(3) Other.....	1b(3)		
c	General investments:			
	(1) Interest-bearing cash (include money market accounts & certificates of deposit).....	1c(1)		
	(2) U.S. Government securities	1c(2)		
	(3) Corporate debt instruments (other than employer securities):			
	(A) Preferred	1c(3)(A)		
	(B) All other.....	1c(3)(B)		
	(4) Corporate stocks (other than employer securities):			
	(A) Preferred	1c(4)(A)		
	(B) Common.....	1c(4)(B)		
	(5) Partnership/joint venture interests	1c(5)		
	(6) Real estate (other than employer real property).....	1c(6)		
	(7) Loans (other than to participants)	1c(7)		
	(8) Participant loans.....	1c(8)	221615	248248
	(9) Value of interest in common/collective trusts	1c(9)	2616736	2549878
	(10) Value of interest in pooled separate accounts	1c(10)	35042323	33371625
	(11) Value of interest in master trust investment accounts	1c(11)		
	(12) Value of interest in 103-12 investment entities.....	1c(12)		
	(13) Value of interest in registered investment companies (e.g., mutual funds).....	1c(13)		
	(14) Value of funds held in insurance company general account (unallocated contracts).....	1c(14)		
	(15) Other	1c(15)		

1d Employer-related investments:		(a) Beginning of Year	(b) End of Year
(1) Employer securities	1d(1)		
(2) Employer real property	1d(2)		
e Buildings and other property used in plan operation	1e		
f Total assets (add all amounts in lines 1a through 1e)	1f	37893494	36233207

Liabilities

g Benefit claims payable	1g	0	0
h Operating payables	1h		
i Acquisition indebtedness	1i		
j Other liabilities	1j		
k Total liabilities (add all amounts in lines 1g through 1j)	1k	0	0

Net Assets

l Net assets (subtract line 1k from line 1f)	1l	37893494	36233207
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Part II Income and Expense Statement

- 2** Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

Income

		(a) Amount	(b) Total
a Contributions:			
(1) Received or receivable in cash from: (A) Employers	2a(1)(A)	615890	
(B) Participants	2a(1)(B)	2101594	
(C) Others (including rollovers)	2a(1)(C)	835344	
(2) Noncash contributions	2a(2)		
(3) Total contributions. Add lines 2a(1)(A) , (B) , (C) , and line 2a(2)	2a(3)		3552828
b Earnings on investments:			
(1) Interest:			
(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)		
(B) U.S. Government securities	2b(1)(B)		
(C) Corporate debt instruments	2b(1)(C)		
(D) Loans (other than to participants)	2b(1)(D)		
(E) Participant loans	2b(1)(E)	9697	
(F) Other	2b(1)(F)		
(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)		9697
(2) Dividends: (A) Preferred stock	2b(2)(A)		
(B) Common stock	2b(2)(B)		
(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)		
(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)		0
(3) Rents	2b(3)		
(4) Net gain (loss) on sale of assets: (A) Aggregate proceeds	2b(4)(A)		
(B) Aggregate carrying amount (see instructions)	2b(4)(B)		
(C) Subtract line 2b(4)(B) from line 2b(4)(A) and enter result	2b(4)(C)		0
(5) Unrealized appreciation (depreciation) of assets: (A) Real estate	2b(5)(A)		
(B) Other	2b(5)(B)		
(C) Total unrealized appreciation of assets. Add lines 2b(5)(A) and (B)	2b(5)(C)		0

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		-2118535
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		
(9) Net investment gain (loss) from 103-12 investment entities	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds).....	2b(10)		
c Other income.....	2c		
d Total income. Add all income amounts in column (b) and enter total.....	2d		1443990

Expenses

e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	4848375	
(2) To insurance carriers for the provision of benefits	2e(2)		
(3) Other	2e(3)		
(4) Total benefit payments. Add lines 2e(1) through (3).....	2e(4)		4848375
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions)	2g		
h Interest expense.....	2h		
i Administrative expenses: (1) Professional fees.....	2i(1)		
(2) Contract administrator fees.....	2i(2)	90960	
(3) Investment advisory and management fees.....	2i(3)		
(4) Other	2i(4)	7775	
(5) Total administrative expenses. Add lines 2i(1) through (4).....	2i(5)		98735
j Total expenses. Add all expense amounts in column (b) and enter total	2j		4947110

Net Income and Reconciliation

k Net income (loss). Subtract line 2j from line 2d	2k		-3503120
l Transfers of assets:			
(1) To this plan.....	2l(1)		1842833
(2) From this plan.....	2l(2)		

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) ☐ Unqualified (2) ☐ Qualified (3) ☒ Disclaimer (4) ☐ Adverse

b Did the accountant perform a limited scope audit pursuant to 29 CFR 2520.103-8 and/or 103-12(d)?

☒ Yes ☐ No

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: RSM US LLP

(2) EIN: 42-0714325

d The opinion of an independent qualified public accountant is **not attached** because:

(1) ☐ This form is filed for a CCT, PSA, or MTIA. (2) ☐ It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

During the plan year:

a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.).....

b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)

	Yes	No	Amount
4a		X	
4b		X	

		Yes	No	Amount
c Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)	4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.).....	4d		X	
e Was this plan covered by a fidelity bond?	4e	X		500000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	4f		X	
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?.....	4g		X	
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?.....	4h		X	
i Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	4i	X		
j Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked, and see instructions for format requirements.)	4j		X	
k Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?	4k		X	
l Has the plan failed to provide any benefit when due under the plan?.....	4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	4m		X	
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.	4n			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year?..... ☐ Yes ☒ No
 If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)	5b(2) EIN(s)	5b(3) PN(s)

5c If the plan is a defined benefit plan, is it covered under the PBGC insurance program (See ERISA section 4021.)? ☐ Yes ☐ No ☐ Not determined
 If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year _____. (See instructions.)

<div>SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation</div>	<div>Retirement Plan Information</div> <div>This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code).</div> <div>▶ File as an attachment to Form 5500.</div>	<div>OMB No. 1210-0110</div> <div>2018</div> <div>This Form is Open to Public Inspection.</div>
For calendar plan year 2018 or fiscal plan year beginning 01/01/2018 and ending 12/31/2018		
A Name of plan ROGUE WAVE SOFTWARE, INC. EMPLOYEES 401(K) PLAN		B Three-digit plan number (PN) ▶ 001
C Plan sponsor's name as shown on line 2a of Form 5500 ROGUE WAVE SOFTWARE, INC.		D Employer Identification Number (EIN) 85-0373486
Part I	Distributions	
All references to distributions relate only to payments of benefits during the plan year.		
1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions		1 0
2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits): EIN(s): 01-0233346		
Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.		
3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year		3
Part II	Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)	
4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ☐ Yes ☐ No ☐ N/A If the plan is a defined benefit plan, go to line 8.		
5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. Date: Month Day Year If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.		
6 a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived)		6a
b Enter the amount contributed by the employer to the plan for this plan year		6b
c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount)		6c
If you completed line 6c, skip lines 8 and 9.		
7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ☐ Yes ☐ No ☐ N/A		
8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ☐ Yes ☐ No ☐ N/A		
Part III	Amendments	
9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box. ☐ Increase ☐ Decrease ☐ Both ☐ No		
Part IV	ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.	
10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan? ☐ Yes ☐ No		
11 a Does the ESOP hold any preferred stock? ☐ Yes ☐ No		
b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.) ☐ Yes ☐ No		
12 Does the ESOP hold any stock that is not readily tradable on an established securities market? ☐ Yes ☐ No		
For Paperwork Reduction Act Notice, see the Instructions for Form 5500.		
Schedule R (Form 5500) 2018 v. 171027		

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that contributed more than 5% of total contributions to the plan during the plan year (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

- 14** Enter the number of participants on whose behalf no contributions were made by an employer as an employer of the participant for:

a The current year

b The plan year immediately preceding the current plan year

c The second preceding plan year

14a**14b****14c**

- 15** Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:

a The corresponding number for the plan year immediately preceding the current plan year

b The corresponding number for the second preceding plan year

15a**15b**

- 16** Information with respect to any employers who withdrew from the plan during the preceding plan year:

a Enter the number of employers who withdrew during the preceding plan year

b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers

16a**16b**

- 17** If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment. ☐

Part VI Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans

- 18** If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐

- 19** If the total number of participants is 1,000 or more, complete lines (a) through (c)

- a** Enter the percentage of plan assets held as:

Stock: 0.0 % Investment-Grade Debt: _____ % High-Yield Debt: _____ % Real Estate: _____ % Other: _____ %

- b** Provide the average duration of the combined investment-grade and high-yield debt:

☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more

- c** What duration measure was used to calculate line 19(b)?

☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify): _____

Rogue Wave Software, Inc. Employees 401(k) Plan

Financial Report
December 31, 2018

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Independent Auditor's Report

RSM US LLP

To the Plan Administrator and Board of Directors
Rogue Wave Software, Inc. Employees 401(k) Plan

Report on the Financial Statements

We were engaged to audit the accompanying financial statements of Rogue Wave Software, Inc. Employees 401(k) Plan (the Plan), which comprise the statements of net assets available for benefits as of December 31, 2018 and 2017, and the related statement of changes in net assets available for benefits for the year ended December 31, 2018, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on conducting the audits in accordance with auditing standards generally accepted in the United States of America. Because of the matter described in the Basis for Disclaimer of Opinion paragraph, however, we were not able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion.

Basis for Disclaimer of Opinion

As permitted by 29 CFR 2520.103-8 of the Department of Labor's (DOL) Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974, the Plan Administrator instructed us not to perform, and we did not perform, any auditing procedures with respect to the information summarized in Note 3, which was certified or provided by John Hancock Life Insurance Company (U.S.A.), the custodian of the Plan, except for comparing this information with the related information included in the financial statements. We have been informed by the Plan Administrator that the custodian holds the Plan's assets and executes transactions. The Plan Administrator has obtained certifications from the custodian as of December 31, 2018 and 2017, and for the year ended December 31, 2018, that the information provided to the Plan Administrator by the custodian is, to the best of their knowledge, complete and accurate.

Disclaimer of Opinion

Because of the significance of the matter described in the Basis for Disclaimer of Opinion paragraph, we have not been able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion. Accordingly, we do not express an opinion on these financial statements.

Emphasis of Matter—2018 Merger

As discussed in Note 6 to the financial statements, the Board of Directors of the Plan's sponsor approved to merge the ZeroTurnaround USA 401(k) Plan into the Plan effective May 15, 2018 or as soon as administratively feasible thereafter. Our disclaimer of opinion has not been modified with respect to this matter.

Emphasis of Matter—2019 Merger

As discussed in Note 10 to the financial statements, the Board of Directors of the Plan's sponsor approved to merge the Gliffy Retirement Plan into the Plan, which occurred on October 1, 2019, when legal responsibility for the assets from the Gliffy Plan was transferred to the Plan. Our disclaimer of opinion has not been modified with respect to this matter.

Emphasis of Matter—2019 Merger of the Plan

As discussed in Note 10 to the financial statements, the Board of Directors of the Plan's sponsor, voted on December 15, 2019, to merge the Plan into the Perforce Software, Inc. 401(k) Plan (the Perforce Plan) effective December 31, 2019. All plan assets will be transferred to the Perforce Plan as soon as administratively feasible in 2020. Our disclaimer of opinion has not been modified with respect to this matter.

Other Matter

The supplemental schedule, Schedule H—Part IV, Line 4i—schedule of assets (held at end of year) as of December 31, 2018, is required by the DOL's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 and is presented for the purposes of additional analysis and is not a required part of the financial statements. The supplemental schedule is the responsibility of the Plan's management. Because of the significance of the matter described in the Basis for Disclaimer of Opinion paragraph, we do not express an opinion on the supplemental schedule.

Report on Form and Content in Compliance with DOL Rules and Regulations

The form and content of the information included in the financial statements and supplemental schedule, other than that derived from the information certified or provided by the custodian, have been audited by us in accordance with auditing standards generally accepted in the United States of America and, in our opinion, are presented in compliance with the DOL's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974.

RSM US LLP

Denver, Colorado
January 22, 2020

Rogue Wave Software, Inc. Employees 401(k) Plan

**Statements of Net Assets Available for Benefits
December 31, 2018 and 2017**

	2018	2017
Assets		
Cash	\$ 63,456	\$ 12,820
Investments, at fair value	35,921,503	37,659,059
Notes receivable from participants	248,248	221,615
Total assets	36,233,207	37,893,494
Liabilities	-	-
Net assets available for benefits	\$ 36,233,207	\$ 37,893,494

See notes to financial statements.

Rogue Wave Software, Inc. Employees 401(k) Plan

Statement of Changes in Net Assets Available for Benefits Year Ended December 31, 2018

Additions to net assets attributed to:	
Investment loss:	
Net depreciation in fair value of investments	\$ (2,118,535)
Other income	30,196
	<u>(2,088,339)</u>
Interest income on notes receivable from participants	<u>9,697</u>
Contributions:	
Participants	2,101,594
Employer, net of forfeitures applied	615,890
Amounts rolled over from other plans	835,344
	<u>3,552,828</u>
Total additions	<u>1,474,186</u>
Deductions from net assets attributed to:	
Benefits paid to participants	4,848,375
Administrative fees	128,931
Total deductions	<u>4,977,306</u>
Net decrease	(3,503,120)
Transfers from other plans (Note 6)	1,842,833
Net assets available for benefits:	
Beginning of year	<u>37,893,494</u>
End of year	<u><u>\$ 36,233,207</u></u>

See notes to financial statements.

Rogue Wave Software, Inc. Employees 401(k) Plan

Notes to Financial Statements

Note 1. Plan Description

The following description of the Rogue Wave Software, Inc. Employees 401(k) Plan (the Plan) is provided for general information purposes only. Participants and all others should refer to the Plan document for a complete description of the Plan's provisions.

General and eligibility: The Plan is a participant-directed defined contribution plan covering all non-union full-time employees of Rogue Wave Software, Inc. (the Company or the Plan Sponsor). Akana, Inc., SOA Software, Inc. and LogicLibrary Inc. became participating employers in the Plan on March 16, 2017. ZeroTurnaround USA, Inc. became a participating employer effective January 1, 2018. Gliffy Inc. became a participating employer effective December 31, 2018. Participants may enter the Plan on the first day of the month following their date of hire. There is no age or service requirement to be eligible to participate in the Plan and make elective deferrals. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA), and the applicable current Internal Revenue Code provisions.

Contributions and investment options: Each year, as defined by the Plan, participants may contribute up to the maximum percentage of compensation and dollar amount permissible under the annual limits of the Internal Revenue Code. Participants who have attained age 50 before the end of the Plan year are eligible to make catch-up contributions. The Plan allows participants to designate contributions as Roth 401(k) contributions. Participants may also contribute amounts representing distributions from other qualified plans. The Company may make discretionary matching contributions. During the year ended December 31, 2018, the Company contributed a discretionary matching contribution amount equal to 50% of each participant's elective deferrals, subject to a maximum of 6% of the participant's eligible compensation. Participants direct the investment of their contributions and employer contributions into various investment options offered by the Plan. Participants may change their investment options daily.

Participant accounts: Each participant's account is credited with the participant's contributions, the Company matching contributions and allocations of Plan earnings or losses, and is charged with an allocation of administrative expenses. Allocations are based on participant earnings or account balances, as defined in the Plan. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account.

Vesting: Participants are immediately vested in their elective contributions plus investment earnings thereon, and such amounts are nonforfeitable. Vesting in the Company's discretionary matching contributions plus earnings thereon is based on years of credited service under the following schedule:

<u>Years of Vesting Service</u>	<u>Vested Percentages</u>
1 year	33 1/3%
2 years	66 2/3%
3 years	100%

In the event of Plan termination, death, permanent disability, or total disability, participants will become 100% vested in their account balances.

Payment of benefits: Participants or their beneficiaries are eligible for benefits upon hardship, retirement, termination, death or disability. All benefits shall be distributed through a lump sum payment. Effective December 31, 2018, in-service distributions are allowed for participants attaining the age of 59½. Accounts with a vested interest of less than \$1,000, upon termination for any reason, are automatically distributed in full.

Rogue Wave Software, Inc. Employees 401(k) Plan

Notes to Financial Statements

Note 1. Plan Description (Continued)

Notes receivable from participants: Participants may borrow from their accounts a minimum of \$1,000 up to a maximum equal to the lesser of 50% of the participant's vested account balance or \$50,000 reduced by the participant's highest outstanding balance of all notes receivables (if any) during the prior 12 months. Notes receivables are due in equal installments not to exceed five years or 15 years for the purchase of a primary residence. Notes receivable shall bear interest at a rate equal to the prime rate or such other reasonable rate as the Plan Administrator or the Plan's investment company shall set at the time the note is made. Principal and interest is paid ratably through payroll deductions. In addition, each participant may not have more than one note receivable outstanding at any time. The Plan was amended on September 15, 2017, increasing the number of notes receivable outstanding at any time to two. Notes receivable transferred into the Plan in conjunction with the Plan Merger (Note 6) retained their repayment and interest rate terms as originally granted. Notes receivables outstanding at December 31, 2018, bear interest ranging from 3.25% to 5.25% and are due through September 2044.

Forfeitures: Participants terminating employment without being 100% vested in the Company's contributions forfeit the nonvested portion of their account. This occurs in the year they receive a distribution of their entire vested account balance. Forfeitures are used to either reduce future Company contributions to the Plan or to pay administrative expenses of the Plan. The outstanding balances of forfeited accounts were \$63,456 and \$12,820 as of December 31, 2018 and 2017, respectively. During the year ended December 31, 2018, no forfeitures were used to reduce Company contributions or pay plan expenses.

Administrative expenses: Certain administrative functions are performed by employees of the Company. No such employee receives compensation from the Plan. All administrative fees, other than loan fees, are paid by the Plan or Plan sponsor.

Investment management fees and operating expenses: Certain investment management fees charged to the Plan for investments in the mutual funds are deducted from income earned on a daily basis and are not separately reflected. Consequently, management fees are reflected as a reduction of investment return for such investments.

Note 2. Summary of Significant Accounting Policies

Basis of accounting: The accompanying financial statements have been prepared on the accrual basis of accounting.

Use of estimates: The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires Plan management to make estimates and assumptions that affect the reported amounts of net assets available for benefits and changes in net assets available for benefits and disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

Risks and uncertainties: The Plan utilizes various funds as investment instruments. Pooled separate accounts are invested in mutual funds, which are exposed to various risks, such as interest rate and credit risk and overall market volatility. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the financial statements.

Investment valuation and income recognition: Investments are reported at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Plan's investment committee determines the Plan's valuation policies utilizing information provided by the investment custodian and insurance company. See Note 4 for discussion of fair value measurements.

Rogue Wave Software, Inc. Employees 401(k) Plan

Notes to Financial Statements

Note 2. Summary of Significant Accounting Policies (Continued)

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date. Net appreciation or depreciation includes the Plan's gains and losses on investments bought and sold as well as held during the year.

Payment of benefits: Benefit payments to participants are recorded when paid.

Notes receivable from participants: Notes receivable from participants are measured at their unpaid principal balance plus any accrued but unpaid interest. Delinquent loans are treated as distributions based upon the terms of the Plan document.

Recent accounting pronouncements: In August 2018, the Financial Accounting Standards Board issued Accounting Standards Update (ASU) No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to Disclosure Requirements for Fair Value Measurement*, which modifies the disclosure requirements for fair value measurements by removing, modifying or adding certain disclosures. ASU 2018-13 is effective for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. An entity is permitted to early adopt any removed or modified disclosures and delay adoption of the additional disclosures until their effective date. The adoption of ASU 2018-13 is not expected to have a material impact on the financial statements.

Subsequent events: The Plan Administrator evaluated subsequent events through January 22, 2020, the date the financial statements were available to be issued.

Note 3. Information Certified and Provided by John Hancock Life Insurance Company (U.S.A.)

The following is a summary of the Plan's asset information as of December 31, 2018 and 2017, and for the year ended December 31, 2018, included throughout the Plan's financial statements and supplemental schedule, that was prepared by or derived from information provided by John Hancock Life Insurance Company (U.S.A) (the Custodian) and furnished to the Plan Administrator. The Plan Administrator has obtained certifications from the Custodian that information provided to the Plan Administrator by the Custodian related to the following assets is, to the best of their knowledge, complete and accurate. The Plan Administrator has elected the method of compliance by 29 CFR 2520.103-8 of the DOL's Rules and Regulations for Reporting and Disclosure under ERISA. Accordingly, as permitted under such election, the Plan Administrator instructed the Plan's independent auditors not to perform any auditing procedures with respect to information which appears throughout the financial statements and the supplemental schedule related to the following assets:

	2018	2017
Cash	\$ 63,456	\$ 12,820
Investments, at fair value:		
Pooled separate accounts	33,371,625	35,042,323
Common collective trust	2,549,878	2,616,736
	<u>\$ 35,921,503</u>	<u>\$ 37,659,059</u>
Notes receivable from participants	<u>\$ 248,248</u>	<u>\$ 221,615</u>

The Custodian also certified to the completeness and accuracy of the investment loss information (including investments bought, sold and held during the year) and interest income on notes receivable from participants for the year ended December 31, 2018, included on the accompanying statement of changes in net assets available for benefits.

Rogue Wave Software, Inc. Employees 401(k) Plan

Notes to Financial Statements

Note 4. Fair Value Measurements

The Fair Value Measurements and Disclosures Topic of *FASB Accounting Standards Codification* (ASC), establishes a framework for measuring fair value. The framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy under the topic are described below:

Level 1: Quoted prices (unadjusted) for identical assets or liabilities in active markets that the Plan has the ability to access as of the measurement date.

Level 2: Significant other observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.

Level 3: Significant unobservable inputs that reflect the Plan's own assumptions about the assumptions that market participants would use in pricing an asset or liability.

The asset's or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs. There have been no changes in valuation methodologies used at December 31, 2018 compared to December 31, 2017.

Following is a description of the valuation methodologies used for assets measured at fair value:

Pooled separate accounts: Pooled separate accounts invest primarily in mutual funds. The fair values of these pooled separate accounts are primarily based on quoted market prices for the underlying securities or similar instruments. These fair values are classified within Level 2 of the valuation hierarchy since the net asset value (NAV) of the pooled separate account itself is not publically quoted in an active market but the values are not dependent on the input of any significant judgments or assumptions by management. Each pooled separate account provides for redemptions by the Plan at the reported NAV per share, with little to no advance notice requirement. These investments are not eligible to use the NAV practical expedient as published prices are available.

Common collective trust (CCT): These investments are public investment vehicles valued using the NAV provided by the administrator of the fund. The NAV is based on the value of the underlying assets owned by the fund, minus the liabilities, and then divided by the number of shares outstanding. The CCT is not classified within the fair value hierarchy pursuant to ASC 820-10. As published prices are not available for the CCT, the CCT is eligible to use NAV as a practical expedient.

The methods described above may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Plan believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

Rogue Wave Software, Inc. Employees 401(k) Plan

Notes to Financial Statements

Note 4. Fair Value Measurements (Continued)

The following tables set forth by level, within the fair value hierarchy, the Plan's investments at fair value as of December 31, 2018 and 2017:

	2018			
	Level 1	Level 2	Level 3	Total
Pooled separate accounts	\$ -	\$ 33,371,625	\$ -	\$ 33,371,625
Total assets at fair value	\$ -	\$ 33,371,625	\$ -	33,371,625
Investments measured at NAV (a)				2,549,878
				<u>\$ 35,921,503</u>

	2017			
	Level 1	Level 2	Level 3	Total
Pooled separate accounts	\$ -	\$ 35,042,323	\$ -	\$ 35,042,323
Total assets at fair value	\$ -	\$ 35,042,323	\$ -	35,042,323
Investments measured at NAV (a)				2,616,736
				<u>\$ 37,659,059</u>

- (a) In accordance with Subtopic 820-10, certain investments that were measured at NAV per share (or its equivalent) have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the line items presented in the statements of net assets available for benefits.

During the year ended December 31, 2018, the Plan did not make any transfers between levels.

The following table summarizes investments for which fair value is measured using NAV per share (or its equivalent) practical expedient as of December 31, 2018 and 2017. There are no participant redemption restrictions for these investments; the redemption notice period is applicable only to the Plan.

Investment	Fair Value 2018	Fair Value 2017	Unfunded Commitment	Redemption Frequency	Redemption Notice Period
Common collective trust accounts:					
John Hancock Stable Value Fund (a)	<u>\$ 2,549,878</u>	<u>\$ 2,616,736</u>	n/a	Daily	None

- (a) The investment strategy of this fund is not disclosed pursuant to ASU No. 2015-12, *Plan Accounting: Defined Benefit Pension Plans (Topic 960), Defined Contribution Pension Plans (Topic 962), Health and Welfare Benefit Plans (Topic 965)—(I) Fully Benefit-Responsive Investment Contracts, (II) Plan Investment Disclosures, and (III) Measurement Date Practical Expedient (a consensus of the FASB Emerging Issues Task Force)*.

Note 5. Plan Termination

Although it has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. In the event of Plan termination, the participants will become 100% vested in their accounts and the net assets of the Plan, after payment of any expenses properly charged, will be distributed to the participants of the Plan in accordance with the provisions for ERISA.

Rogue Wave Software, Inc. Employees 401(k) Plan

Notes to Financial Statements

Note 6. Plan Mergers

The Board of Directors approved to merge Akana, Inc. 401(k) Plan and Trust (the Akana Plan) into the Plan effective March 16, 2017 or as soon as administratively feasible thereafter. As a result, the Plan's adoption agreement was amended and restated and Akana, Inc. became a participating employer effective March 16, 2017. The majority of the assets of the Akana Plan were transferred to the Plan during March 2017, however, the Akana Plan held certain guaranteed investment contracts which could not be liquidated for approximately one year in accordance with the guaranteed investment contract. Accordingly, the remaining net assets of the Akana Plan totaling approximately \$243,000 were transferred to the Plan on April 18, 2018, and were recorded in transfers from other plans in the accompanying statement of changes in net assets available for benefits for the year ended December 31, 2018. During the transfer, the Akana Plan enacted a blackout period whereby participants were unable to request loans or withdrawals, make changes to investment selections, or transfer between investments until the blackout period was complete.

The Board of Directors approved to merge the ZeroTurnaround USA 401(k) Plan (the ZeroTurnaround Plan) into the Plan effective May 15, 2018, or as soon as administratively feasible thereafter. As a result, the Plan's adoption agreement was amended and restated and ZeroTurnaround USA, Inc. became a participating employer effective January 1, 2018. Net assets relating to the ZeroTurnaround Plan totaling approximately \$1,597,000 were transferred to the Plan on May 21, 2018. During the transfer, the ZeroTurnaround Plan enacted a blackout period whereby participants were unable to request loans or withdrawals, make changes to investment selections, or transfer between investments until the blackout period was complete.

Note 7. Tax Status

The Plan is a defined contribution prototype plan sponsored by the Custodian. The prototype plan has received an opinion letter from the Internal Revenue Service dated September 30, 2014, as to the prototype plan's qualified status. The prototype plan opinion letter has been relied upon by this Plan. Although the Plan has been amended since receiving opinion letter, the Plan Administrator believes the Plan is designed and is being operated in compliance with the applicable provisions of the Internal Revenue Code.

The Plan follows the accounting guidance for uncertainty in income taxes. The Plan Administrator evaluated the Plan's tax positions and concluded that the Plan had maintained its tax exempt status and had taken no uncertain tax positions that require adjustment to the financial statements, therefore, no provision of liability for income taxes has been included in the financial statements.

Note 8. Related-Party Transactions

Certain Plan investments are shares of pooled separate accounts and a common collective trust, which are managed by the Custodian and, therefore, qualify as party-in-interest transactions. Service charges paid by the Plan for the investment management services were \$121,156 for the year ended December 31, 2018.

Rogue Wave Software, Inc. Employees 401(k) Plan

Notes to Financial Statements

Note 9. Reconciliation of Financial Statements to Form 5500

The following is a reconciliation of net assets available for benefits per the financial statements to the Form 5500 as of December 31, 2018 and 2017:

	2018	2017
Net assets available for benefits per the financial statements	\$ 36,233,207	\$ 37,893,494
Notes receivable from participants	(248,248)	(221,615)
Participant loans	248,248	221,615
Net assets available for benefits per the Form 5500	<u>\$ 36,233,207</u>	<u>\$ 37,893,494</u>

The following is a reconciliation of the net increase in plan assets as reported on the statement of changes in net assets available for benefits per the financial statements to the Form 5500 for the year ended December 31, 2018:

Net decrease in net assets per the financial statements	\$ (3,503,120)
Other income	30,196
Administrative expenses	(30,196)
Net decrease in net assets per the Form 5500	<u>\$ (3,503,120)</u>

Note 10. Subsequent Events

On February 8, 2019, in accordance with the terms and conditions of the Agreement and Plan of Merger, the Plan Sponsor was acquired by Perforce, Inc.

The Board of Directors approved to merge Gliffy Retirement Plan (the Gliffy Plan) into the Plan effective December 31, 2018 or as soon as administratively feasible thereafter. As a result, the Plan's adoption agreement was amended and restated and Gliffy, Inc. became a participating employer effective December 31, 2018. Net assets relating to the Gliffy Plan totaling approximately \$1,722,000 were transferred to the Plan on October 1, 2019, the effective date of the merger, at which time legal responsibility for the assets from the Gliffy Plan was transferred to the Plan. During the transfer, the Gliffy Plan enacted a blackout period whereby participants were unable to request loans or withdrawals, make changes to investment selections, or transfer between investments until the blackout period was complete.

Effective December 31, 2019, the Plan was amended to merge into the Perforce Software, Inc. 401(k) Plan (the Perforce Plan). Plan assets will be transferred from the Plan's custodian to Financial Decisions, the Perforce Plan custodian, as soon as administratively feasible in 2020.

Rogue Wave Software, Inc. Employees 401(k) Plan**Schedule of Assets (Held at End of Year)
December 31, 2018**

Identity of Issuer, Borrower, Lessor, or Similar Party	Description of Investment, Including Maturity Date and Rate of Interest	Current Value
Common collective trust: John Hancock USA*	Stable Value Fund	\$ 2,549,878
Pooled separate accounts:		
John Hancock USA*	Vanguard Target Ret 2060	545,689
John Hancock USA*	Vanguard Target Ret 2055	1,003,808
John Hancock USA*	Vanguard Target Ret 2050	389,426
John Hancock USA*	Vanguard Target Ret 2045	1,739,329
John Hancock USA*	Vanguard Target Ret 2040	1,478,711
John Hancock USA*	Vanguard Target Ret 2035	1,945,449
John Hancock USA*	Vanguard Target Ret 2030	1,887,795
John Hancock USA*	Vanguard Target Ret 2025	358,187
John Hancock USA*	Vanguard Target Ret 2020	1,222,816
John Hancock USA*	Vanguard Target Ret Income	167,881
John Hancock USA*	Lifestyle Aggressive	538,117
John Hancock USA*	Lifestyle Growth	1,427,598
John Hancock USA*	Lifestyle Balanced	1,340,371
John Hancock USA*	Lifestyle Moderate	217,782
John Hancock USA*	Lifestyle Conservative	262,308
John Hancock USA*	FID Total	1,132,642
John Hancock USA*	DFA Emerging Markets Value	55,963
John Hancock USA*	Oppenheimer Developing Market	77,249
John Hancock USA*	T. Rowe Price Science & Tech	551,613
John Hancock USA*	Blue Chip Growth Fund	3,520,579
John Hancock USA*	Wells Fargo CBF	184,481
John Hancock USA*	Vanguard Small Cap Grow Index	657,718
John Hancock USA*	500 Index Fund	4,980,547
John Hancock USA*	MFS Value Fund	928,468
John Hancock USA*	T. Rowe Price Health Science	627,012
John Hancock USA*	Mid Cap Index Fund	1,130,169
John Hancock USA*	Mid Value Fund	866,343
John Hancock USA*	Hartford Mid Cap Fund	724,638
John Hancock USA*	Royce Opportunity	32,409
John Hancock USA*	DFA U.S. Targeted Value Fund	223,207
John Hancock USA*	DFA U.S. Small Cap Fund	49,469
	Subtotal of pooled separate accounts	30,267,774

(Continued)

Rogue Wave Software, Inc. Employees 401(k) Plan

Schedule of Assets (Held at End of Year) (Continued)
December 31, 2018

Identity of Issuer, Borrower, Lessor, or Similar Party	Description of Investment, Including Maturity Date and Rate of Interest	Current Value
Subtotal of pooled separate accounts brought forward		\$ 30,267,774
Pooled separate accounts (Continued):		
John Hancock USA*	International Value Fund	80,256
John Hancock USA*	International Equity Index Fund	456,056
John Hancock USA*	Small Cap Index Fund	822,976
John Hancock USA*	Oppenheimer International Growth Fund	330,662
John Hancock USA*	American Funds EuroPacific Growth Fund	351,591
John Hancock USA*	PIMCO All Asset	102,281
John Hancock USA*	U.S. High Yield Bond Fund	347,546
John Hancock USA*	Franklin Templeton Global Bond Fund	159,453
John Hancock USA*	MFS Mass Investors Fund	447,730
John Hancock USA*	PIMCO Income Fund	5,300
		<u>33,371,625</u>
Participants*	Notes receivable from participants, maturing through September 2044 at interest rates ranging from 3.25% to 5.25%	<u>248,248</u>
		<u><u>\$ 36,169,751</u></u>

*Represents a party-in-interest

The above information has been certified by John Hancock Life Insurance Company (U.S.A.), the Custodian, as complete and accurate, to the best of their knowledge.

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). <p style="text-align: center;">▶ Complete all entries in accordance with the instructions to the Form 5500.</p>	OMB Nos. 1210-0110 1210-0089 <div style="text-align: center; font-size: 1.2em;">2018</div> This Form is Open to Public Inspection
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Part I Annual Report Identification Information	
For calendar plan year 2018 or fiscal plan year beginning <u>01/01/2018</u> and ending <u>12/31/2018</u>	
A This return/report is for:	☐ a multiemployer plan ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.) ☒ a single-employer plan ☐ a DFE (specify) _____
B This return/report is:	☐ the first return/report ☐ the final return/report ☒ an amended return/report ☐ a short plan year return/report (less than 12 months)
C If the plan is a collectively-bargained plan, check here.	☐
D Check box if filing under:	☒ Form 5558 ☐ automatic extension ☐ the DFVC program ☐ special extension (enter description)

Part II Basic Plan Information—enter all requested information					
1a Name of plan ROGUE WAVE SOFTWARE, INC. EMPLOYEES 401(K) PLAN	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">1b Three-digit plan number (PN) ▶</td> <td style="width: 20%; text-align: center;">001</td> </tr> <tr> <td colspan="2">1c Effective date of plan 05/12/1989</td> </tr> </table>	1b Three-digit plan number (PN) ▶	001	1c Effective date of plan 05/12/1989	
1b Three-digit plan number (PN) ▶	001				
1c Effective date of plan 05/12/1989					
2a Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) ROGUE WAVE SOFTWARE, INC. 1315 WEST CENTURY DRIVE SUITE 150 LOUISVILLE CO 80027	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>2b Employer Identification Number (EIN) 85-0373486</td> </tr> <tr> <td>2c Plan Sponsor's telephone number 303-473-9118</td> </tr> <tr> <td>2d Business code (see instructions) 621399</td> </tr> </table>	2b Employer Identification Number (EIN) 85-0373486	2c Plan Sponsor's telephone number 303-473-9118	2d Business code (see instructions) 621399	
2b Employer Identification Number (EIN) 85-0373486					
2c Plan Sponsor's telephone number 303-473-9118					
2d Business code (see instructions) 621399					

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	 Signature of plan administrator	<u>1/27/20</u> Date	Christy Dinges Enter name of individual signing as plan administrator
SIGN HERE	 Signature of employer/plan sponsor	<u>1/27/20</u> Date	Christy Dinges Enter name of individual signing as employer or plan sponsor
SIGN HERE	 Signature of DFE	 Date	 Enter name of individual signing as DFE

3a Plan administrator's name and address ☐ Same as Plan Sponsor ROGUE WAVE SOFTWARE, INC. 1315 WEST CENTURY DRIVE, SUITE 150 LOUISVILLE CO 80027	3b Administrator's EIN 85-0373486 3c Administrator's telephone number 303-473-9118
4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report: a Sponsor's name c Plan Name	4b EIN 4d PN
5 Total number of participants at the beginning of the plan year	5 404
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines 6a(1), 6a(2), 6b, 6c, and 6d).	
a(1) Total number of active participants at the beginning of the plan year	6a(1) 197
a(2) Total number of active participants at the end of the plan year	6a(2) 244
b Retired or separated participants receiving benefits.....	6b 0
c Other retired or separated participants entitled to future benefits	6c 282
d Subtotal. Add lines 6a(2), 6b, and 6c.....	6d 526
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	6e 0
f Total. Add lines 6d and 6e.....	6f 526
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	6g 446
h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	6h 38
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)	7
8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions: 2F 2G 2J 2K 2R 2T 3D	
b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:	
9a Plan funding arrangement (check all that apply) (1) ☒ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☒ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor

10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)

a Pension Schedules

- (1) ☒ **R** (Retirement Plan Information)
- (2) ☐ **MB** (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary
- (3) ☐ **SB** (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary

b General Schedules

- (1) ☒ **H** (Financial Information)
- (2) ☐ **I** (Financial Information - Small Plan)
- (3) ☒ 1 **A** (Insurance Information)
- (4) ☒ **C** (Service Provider Information)
- (5) ☒ **D** (DFE/Participating Plan Information)
- (6) ☐ **G** (Financial Transaction Schedules)

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2018 Form M-1 annual report. If the plan was not required to file the 2018 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

Rogue Wave Software, Inc. Employees 401(k) Plan**Schedule of Assets (Held at End of Year)
December 31, 2018**

Identity of Issuer, Borrower, Lessor, or Similar Party	Description of Investment, Including Maturity Date and Rate of Interest	Current Value
John Hancock USA*	Stable Value Fund	2,549,878
John Hancock USA*	Vanguard Target Ret 2060	545,689
John Hancock USA*	Vanguard Target Ret 2055	1,003,808
John Hancock USA*	Vanguard Target Ret 2050	389,426
John Hancock USA*	Vanguard Target Ret 2045	1,739,329
John Hancock USA*	Vanguard Target Ret 2040	1,478,711
John Hancock USA*	Vanguard Target Ret 2035	1,945,449
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John Hancock USA*	Vanguard Target Ret 2025	358,187
John Hancock USA*	Vanguard Target Ret 2020	1,222,816
John Hancock USA*	Vanguard Target Ret Income	167,881
John Hancock USA*	Lifestyle Aggressive	538,117
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John Hancock USA*	Lifestyle Balanced	1,340,371
John Hancock USA*	Lifestyle Moderate	217,782
John Hancock USA*	Lifestyle Conservative	262,308
John Hancock USA*	FID Total	1,132,642
John Hancock USA*	DFA Emerging Markets Value	55,963
John Hancock USA*	Oppenheimer Developing Market	77,249
John Hancock USA*	T. Rowe Price Science & Tech	551,613
John Hancock USA*	Blue Chip Growth Fund	3,520,579
John Hancock USA*	Wells Fargo CBF	184,481
John Hancock USA*	Vanguard Small Cap Grow Index	657,718
John Hancock USA*	500 Index Fund	4,980,547
John Hancock USA*	MFS Value Fund	928,468
John Hancock USA*	T. Rowe Price Health Science	627,012
John Hancock USA*	Mid Cap Index Fund	1,130,169
John Hancock USA*	Mid Value Fund	866,343
John Hancock USA*	Prudential Jennison Mid Growth Fund	724,638
John Hancock USA*	Royce Opportunity	32,409
John Hancock USA*	DFA U.S. Targeted Value Fund	223,207
John Hancock USA*	DFA U.S. Small Cap Fund	49,469
	Subtotal	32,817,652

Rogue Wave Software, Inc. Employees 401(k) Plan

Schedule of Assets (Held at End of Year) (Continued) December 31, 2017

Identity of Issuer, Borrower, Lessor, or Similar Party	Description of Investment, Including Maturity Date and Rate of Interest	Current Value
Subtotal brought forward		\$ 32,817,652
John Hancock USA*	International Value Fund	80,256
John Hancock USA*	International Equity Index Fund	456,056
John Hancock USA*	Small Cap Index Fund	822,976
John Hancock USA*	Oppenheimer International Growth Fund	330,662
John Hancock USA*	American Funds EuroPacific Growth Fund	351,591
John Hancock USA*	PIMCO All Asset	102,281
John Hancock USA*	U.S. High Yield Bond Fund	347,547
John Hancock USA*	Franklin Templeton Global Bond Fund	159,453
John Hancock USA*	MFS Mass Investors Fund	447,730
John Hancock USA*	PIMCO Income Fund	5,300
		35,921,504
Participants*	Notes receivable from participants, maturing through December 2028 at interest rates ranging from 3.25% to 3.50%	248,247
		<u>\$ 36,169,751</u>

*Represents a party-in-interest