Implementation Guide:

New Relic’s Telemetry Data Platform with AWS Control Tower
Foreword

New Relic’s Integrations for AWS Control Tower allow for the ingestion of AWS data into New Relic’s Telemetry Data Platform (TDP). TDP acts as the single source of truth for all of your operational data. New Relic One, the industry’s first Observability platform, is built atop TDP allowing you to manage and visualize that data.

The purpose of this AWS Implementation Guide is to enable every AWS Marketplace customer to seamlessly activate, deploy and configure New Relic Integrations in AWS Control Tower environment while taking full advantage of the resources pre-configured by AWS Control Tower as part of the landing zone setup.
Solution Overview

The solution ensures that new AWS accounts enrolled by AWS Control Tower are configured with New Relic Integrations automatically. This will greatly simplify the provisioning of New Relic Integrations in your AWS Control Tower multi-account environment. New Relic Integrations for AWS let you monitor your AWS data in New Relic TDP. List of specific integrations and the data you can collect can be found at [AWS integrations list](#).

New Relic Integrations for AWS requires IAM cross-account access (delegated using an IAM role and associated managed policy). The IAM role permission permits the New Relic AWS account to retrieve telemetry data from your AWS account. For details on the IAM Role and Policy that supports New Relic Integrations, see [here](#).

You have the option to deploy New Relic Lambda monitoring to monitor your Lambda workloads, ingest the CloudWatch logs and send it to the New Relic TDP. At the time of this writing, the solution doesn’t enable Lambda monitoring, but this capability will be added in the future.

Architecture Diagram

The solution is deployed using AWS CloudFormation template and integrates with AWS Control Tower LifeCycle events. When a new account is created or enrolled using the AWS Control Tower account factory, the LifeCycle event triggers the Lambda function to launch CloudFormation Stackset instance. The StackSet instance creates the required IAM role in the new account.
Pre-requisites

If you are new to New Relic One, please refer to New Relic One platform and its capabilities. If you are new to AWS, see Getting Started with AWS. For additional information on AWS Marketplace, see here.

Fully deployed AWS Control Tower is required as prerequisites of this solution. For information about setting up an AWS Control Tower landing zone, see Getting Started with AWS Control Tower in the AWS Control Tower User Guide.

New Relic Integrations requires active New Relic account with Infrastructure Pro enabled.

Deploying the Solution

The solution can be found in this GitHub repository. This solution uses AWS CloudFormation templates that you will deploy from your AWS Control Tower master account. These templates launch all the components necessary to integrate New Relic with new AWS accounts that you enroll or create using the AWS Control Tower Account.

As of the time of this writing, the solution doesn’t include the capability to enable Lambda monitoring. However, if you wish to instrument your Lambda functions and/or enable CloudWatch Logs ingestion, you will also need to enable New Relic Lambda monitoring in each region in your AWS accounts.

Step 1.1: Subscribe to New Relic products on AWS Marketplace.
Locate the New Relic Infrastructure and Application Monitoring in the AWS Marketplace:

[Image of New Relic Infrastructure and Application Monitoring in AWS Marketplace]

Click on the Continue to Subscribe button.
Step 1.2: Guidance on Contract Duration and Renewal
In the new screen, you can configure your contract. You can select the **Contract Duration** and set the **Renewal Settings**.

Configure your Software Contract
Choose the contract that suits your needs. You're charged for your purchase on your AWS bill. After you purchase a contract, you're directed to the vendor's site to complete setup and begin using this software. For any software use beyond your contract limit, you're charged consumption pricing.

**Contract Duration**
- 12 months
- 24 months
- 36 months

**Renewal Settings**
- Auto Renew when this contract ends on - Sat Jul 03 2021?
  - Yes
  - No
- I understand that when I renew, the seller's pricing terms and end user license agreement (EULA) might have changed. On the renewal date, I will be billed based on the price and EULA applicable on that date, which I can find on the Your Marketplace Software page.

New Relic Infrastructure and Application Monitoring

Create contract
By subscribing to this software, you agree to the pricing terms and the seller's End User License Agreement (EULA). You also agree and acknowledge that AWS may share information about this transaction (including your payment terms) with the respective seller, reseller or underlying provider, as applicable, in accordance with the AWS Privacy Notice. Your use of AWS services is subject to the AWS Customer Agreement or other agreement with AWS governing your use of such services.

Total Contract Price
- $0

Select contract Option(s)

**Step 1.3: Select Contract Options**
Select the Contract Options to be activated with your contract.

**Contract Options**
- NR Infrastructure Pro - $1788 / Units
  - Sold in units of 125K compute units
- New Relic APM Pro - $1788 / Units
  - Sold in units of 8.5K compute units
- New Relic Browser Pro - $1788 / Units
  - Sold in units of 500K page views
- New Relic Mobile Ent - $1788 / Units
  - Sold in units of 15K monthly active users

**Step 1.4: Create the Contract and Pay**
Once you have configured your contract, you can click on the Create contract button. You will be prompted to confirm the contract. If you agree to the pricing, select the **Pay Now** button.

**Step 1.5: Set up Account**
Once you subscribed to the solution, New Relic sends email for validation and further instruction to activate your account.
Step 2.1: Log into New Relic

Go to https://login.newrelic.com/login to login, use your New Relic user credential. Select “New Relic Infrastructure”.

Locate your New Relic account ID from the browser URL, it should be in the format below:

https://infrastructure.newrelic.com/accounts/ACCOUNT_ID/hosts/system

Step 2.2: Log into AWS Control Tower master account

Login in to AWS Control Tower master account with Administrator permissions. Make sure you selected AWS region where your AWS Control Tower is deployed.

Create a CloudFormation Stack Set from newrelic-stack-set.yml template file. Use the sample CLI below for reference. This Stack Set deploy the required IAM Role and Managed Policy for integrating your AWS account with New Relic.

- Ensure the Stack Set name is as NewRelic-Integration.
- Replace YOUR_NEW_RELIC_ACCOUNT_ID with your New Relic account id.
- Replace YOUR_CONTROL_TOWER_MASTER_ACCOUNT_ID with your AWS Control Tower master account id.

```bash
aws cloudformation create-stack-set
  --stack-set-name NewRelic-Integration
  --description "Adds in New Relic integration to your AWS accounts"
  --parameters ParameterKey=NewRelicAccountNumber,ParameterValue=<YOUR_NEW_RELIC_ACCOUNT_ID>
  --capabilities CAPABILITY_NAMED_IAM
  --administration-role-arn arn:aws:iam::<YOUR_CONTROL_TOWER-MASTER_ACCOUNT_ID>:role/service-role/AWSControlTowerStackSetRole
  --execution-role-name AWSControlTowerExecution
  --permission-model SELF_MANAGED
```
Next, create a CloudFormation Stack from control-tower-customization.yml template file. This template does not require any parameters.

```bash
aws cloudformation create-stack \
--stack-name New-Relic-Control-Tower-Customization \
--capabilities CAPABILITY_NAMED_IAM
```
Verify New Relic Integration

Once a new account is enrolled from AWS Control Tower, it is automatically set up with IAM role to send data to New Relic Integrations. You need to enable integration from your New Relic account before you can see any telemetry data in New Relic console.

Login to your New Relic account and then click the “INFRASTRUCTURE” link on the top menu bar. Click on any service tile to get started.

Next, you will be taken to the AWS Wizard with 6 steps as shown below. Click the Next button on each step until you get to Step 5 (Account Details).

Step 5: Add Account Details

Add your AWS account name as it will show in the New Relic UI.

Changing the AWS account name is not recommended. Doing so may break New Relic Insights widgets, dashboards, and data apps created by your New Relic users.

Set the name your AWS account. Enter the ARN of the IAM Role that was setup by the solution in your newly enrolled AWS account.
You can find the ARN by logging into your recently enrolled AWS account using AWS Console, and then navigating to IAM > Roles. Search for the role named: 
NewRelicIntegrationRole_<YOUR_NEW_RELIC_ACCOUNT_ID>.

Click on the IAM role to be taken to the role details page, and finally copy the role’s ARN which should look like this:

Next, select the services you’d like to monitor. Your new AWS account will be listed in the screen as shown below. Click on “Account status dashboard” to view the account dashboard.

Your AWS dashboard should look like this. Give it a few minutes for the data to show up and adjust the time picker as necessary.
Best Practices

We recommend you only enable monitoring of the AWS services you need to avoid unnecessary costs.

Estimated Pricing

New Relic Integrations uses the AWS CloudWatch API to obtain metrics from the AWS services you monitor. The number of calls to the CloudWatch API increases as you enable more integrations, add AWS resources to those integrations, or scale those integrations across more regions. This can cause requests to the CloudWatch API to exceed the 1 million free limits granted by AWS and increase your CloudWatch bill.

Please refer to detail in [here](#) for information on how to manage the cost associated with the integrations.

FAQs

**What data analytics capabilities does New Relic provide?**

New Relic provides a real-time analytics platform that collects metrics, events, logs, and traces directly from your live production software, infrastructure, and services, transforming them into actionable insights about your entire stack, your business, and your customers' experiences.

**Can I add additional, external data to New Relic?**

Yes, New Relic is an open platform, allowing you to send metric, event, log, and trace data from 3rd party instrumentation sources. For example, use custom events to store data in New Relic that is not available during a page view, server transaction or mobile session event. [Learn more](#) about how New Relic supports open instrumentation to ingest metrics data from Prometheus, tracing data instrumented with Zipkin, or logs data from Fluentd.

**What is the data retention period for events I can query?**

Data retention varies based on the type of data stored (metrics, events, logs, and traces), and is generally up to you. New Relic has customizable data retention settings, so in some cases you can keep data in New Relic for as long as you want. Prices are determined by the amount of data that you store, so you will want to choose a retention period (where applicable) that meets your business and budgetary needs.

**Can I extract data from New Relic?**

Exporting data from New Relic is available via New Relic's API or via JSON code provided with each chart, graph and dashboard. [Find out more](#) about exporting New Relic data.

**How much does New Relic cost?**

New Relic is free for certain usage thresholds. New Relic's subscription pricing is based on the number of metrics, events, logs, and traces stored in the New Relic Telemetry Data Platform. Customers should reach out to an account executive to determine pricing.
Additional resources

New Relic Integrations uses the Amazon CloudWatch API to obtain metrics from the AWS services you monitor. The New Relic Telemetry Data Platform can accept data from a variety of sources. Here are some links that will help you gather data from your infrastructure, applications, and logs:

https://docs.newrelic.com/docs/infrastructure/install-configure-manage-infrastructure
https://docs.newrelic.com/docs/agents
https://newrelic.com/products/logs

Partner contact information

Eddie Xu, Senior Alliance Manager, exu@newrelic.com