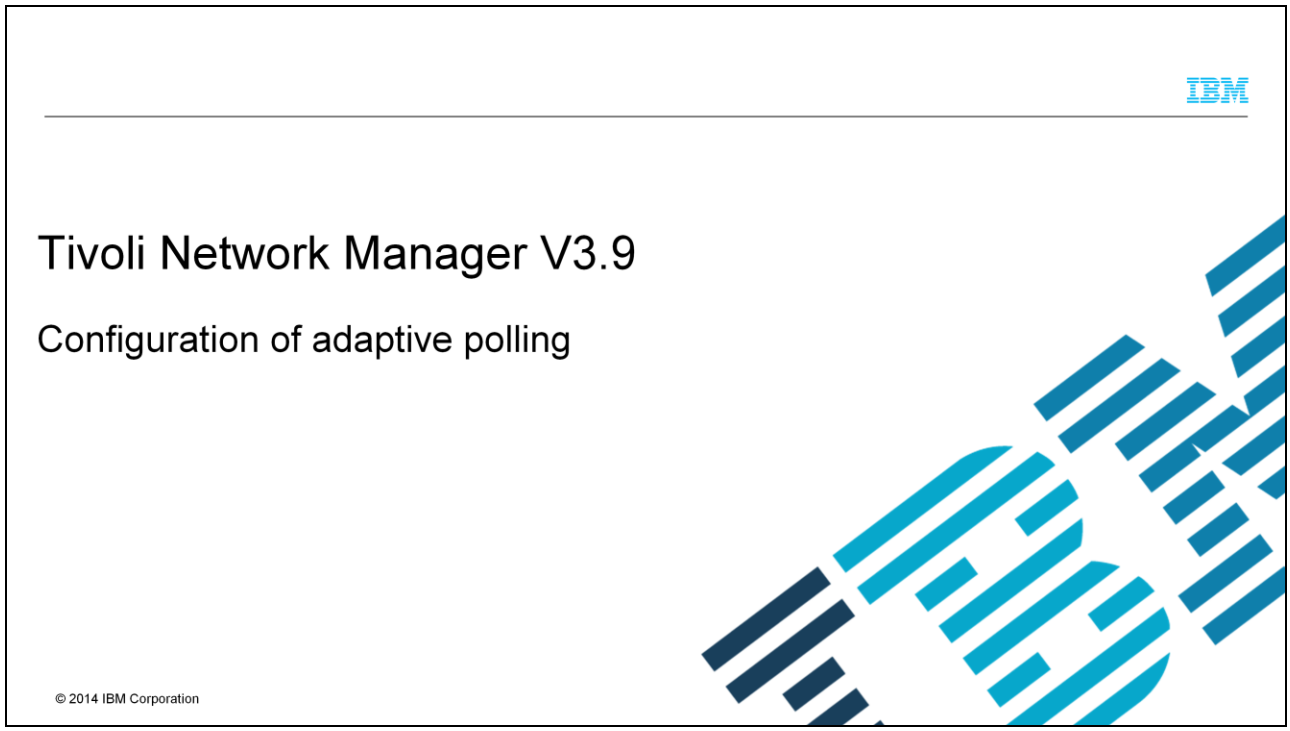

This module shows you how to configure adaptive polling in Tivoli® Network Manager V3.9.

Assumptions

Before you proceed, the module designer assumes that you have these skills and knowledge:
- Understanding of IBM Tivoli Network Manager polling
- Access to the GUI Tivoli Integrated Portal to make configuration changes to polling policies.

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The module developer assumes that you understand IBM Tivoli Network Manager polling, and the properties that are associated with it, and have access to the GUI to create and change the configuration for polling policies.

Objectives

When you complete this module, you can perform these tasks:

- Create a network view to use with the adaptive polling policy.
- Create adaptive polling policies and understand the timing of their proper operation.

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When you complete this module, you can create a network view and adaptive poll policies.

Definition

Adaptive polling is an extra poll policy use to dynamically react to changing network events.

Adaptive polls can be created for both ping or SNMP type policies.

These polls can more quickly determine whether a device failed a poll policy or is merely an anomaly that does not need to be pursued.

Adaptive polling documentation

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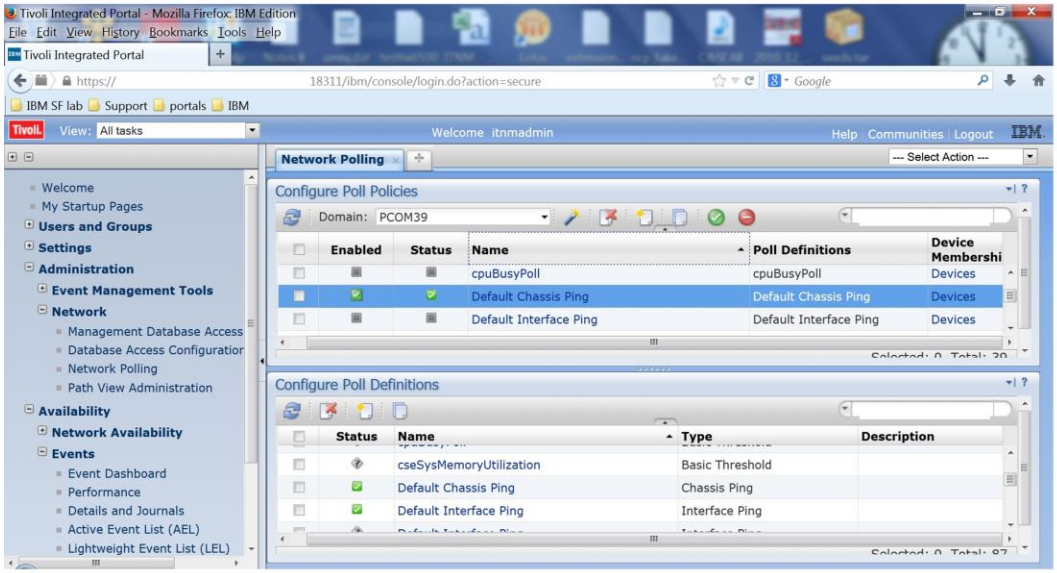
Sometimes a poll policy will fail for a particular device. Adaptive polling allows Tivoli Network Manager to begin rapidly polling the device so that the failure event can be more quickly confirmed or eliminated. Review the online documentation for more details.

Login and review policies



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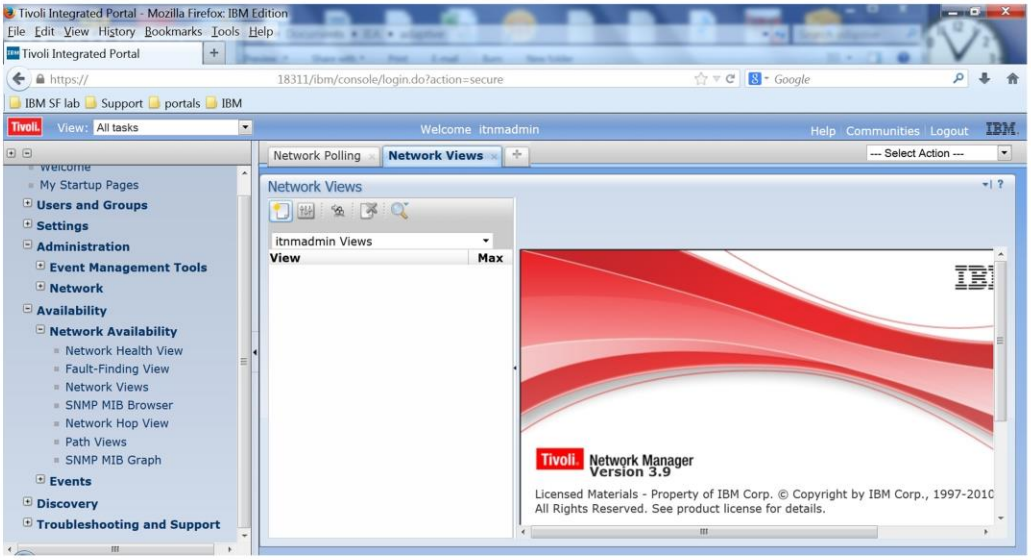
Log in to the IBM Network Manager GUI, and click Administration, Network, and Network Polling. You can review active polling policies here. In this screen, a Default Chassis Ping is enabled.

Prepare to create new view to be used by the adaptive poller



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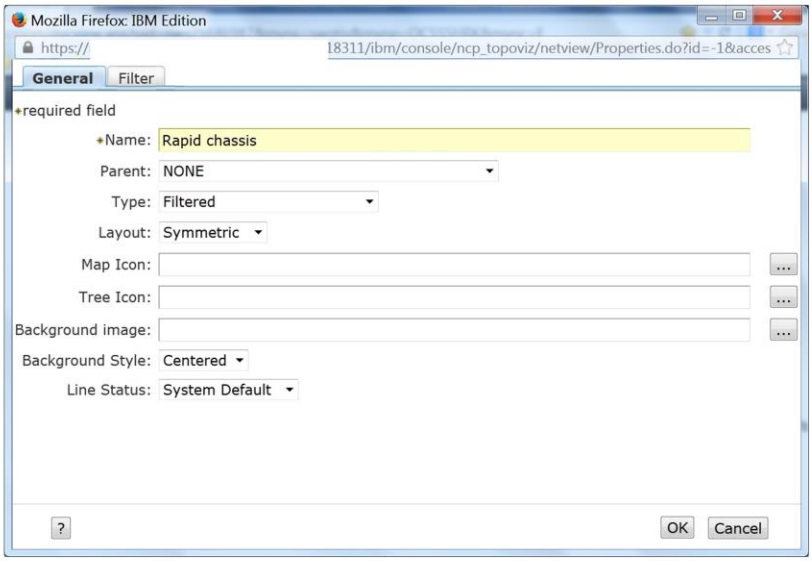
Click Availability, Network Availability, and Network Views. A new tab will open with a list of current network views for this user. Here you can create a new view that will be used by the adaptive poller. Click ‘new view’ and a new pop-up window will appear.

Create a view and give it properties



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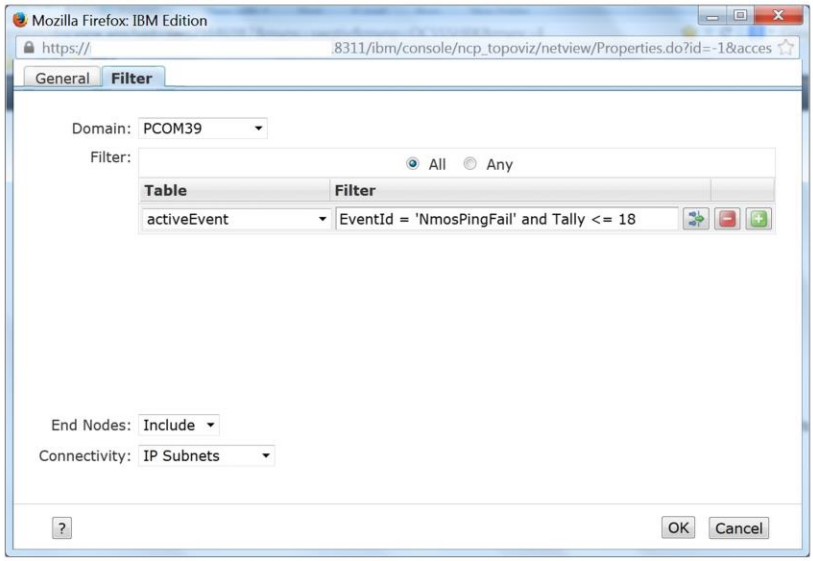
Create properties in the pop-up window. The view to be created will be a filtered view. Any name can be used.

Create the filter for the view



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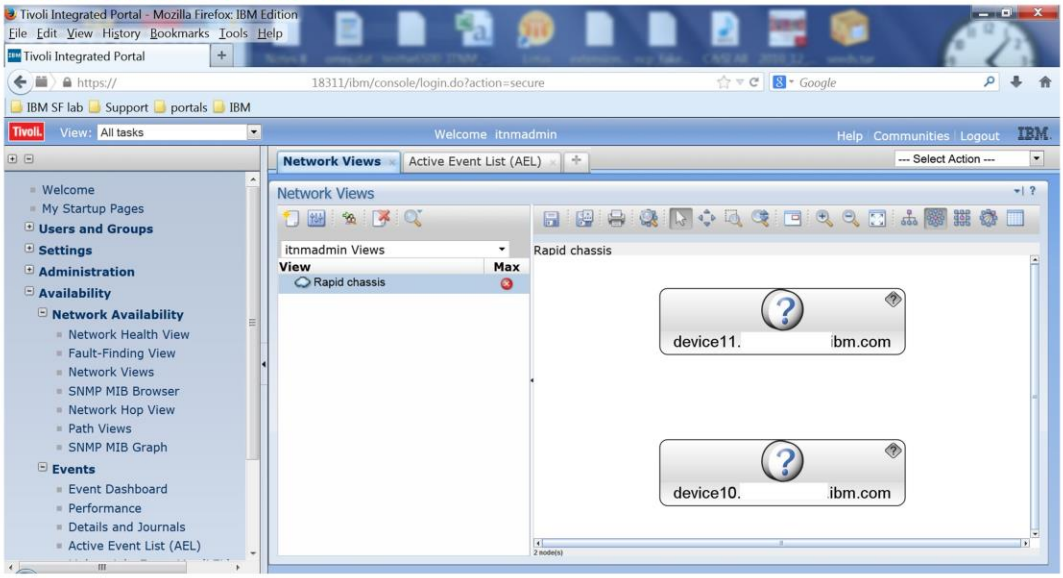
The ‘active event’ table is a table that is similar to alerts status in the object server. The creation filter is based on EventId and Tally. Events that occur less than 19 times will be displayed. For purposes of configuration, the 18 signifies how many times rapid polling of the device will confirm its outage. The ‘End Nodes’ setting at the bottom of the screen is set for Include if you are interested in the inclusion of devices like ‘NoSnmpAccess’ or ‘Printer’.

Look at the output of the new view



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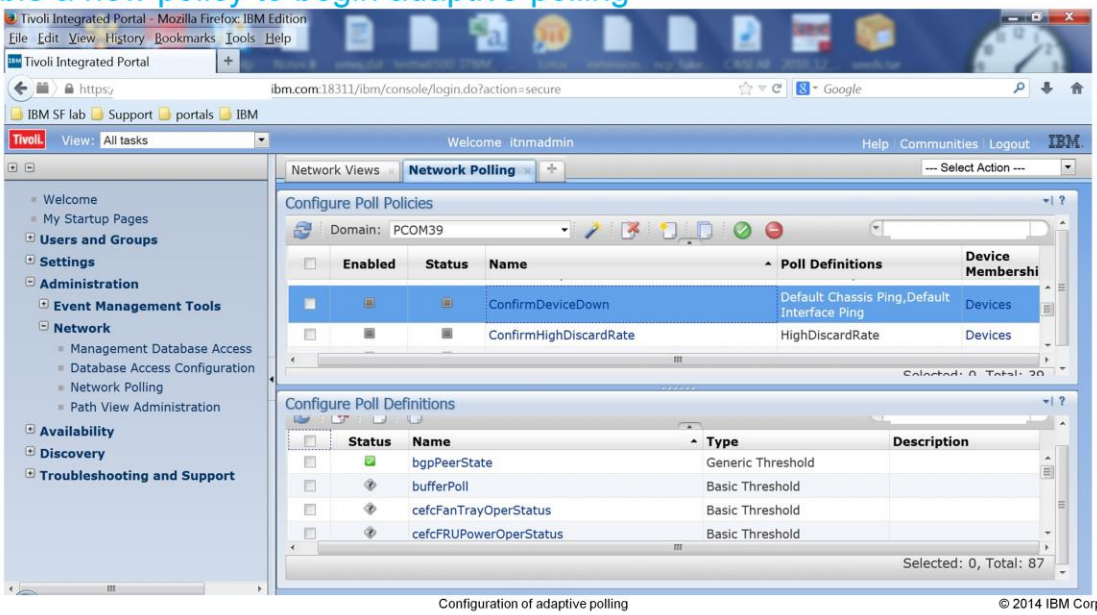
The view finds two devices, device11 and device10. This view is dynamic. When a device has a tally greater than 18, the devices will vanish from this view. These failures might still exist in the object server or active events list, but they will vanish from the view.

Enable a new policy to begin adaptive polling



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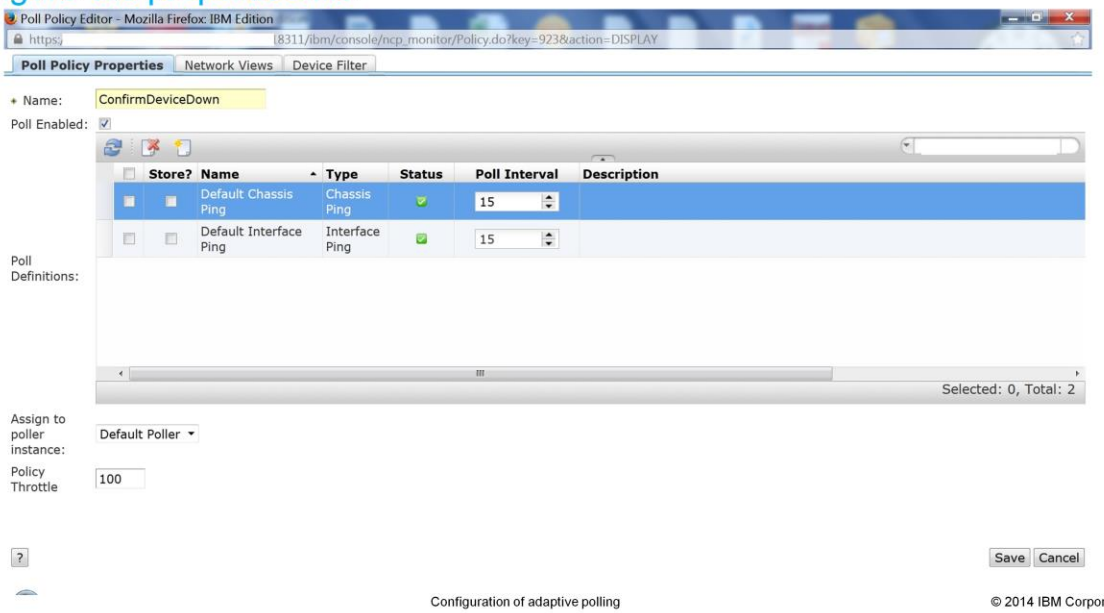
The ConfirmDeviceDown policy can be used to initiate the adaptive polling. The chassis ping is enabled, and the network view is created. This poll can now be configured and enabled for adaptive polling to work.

Configure the properties file



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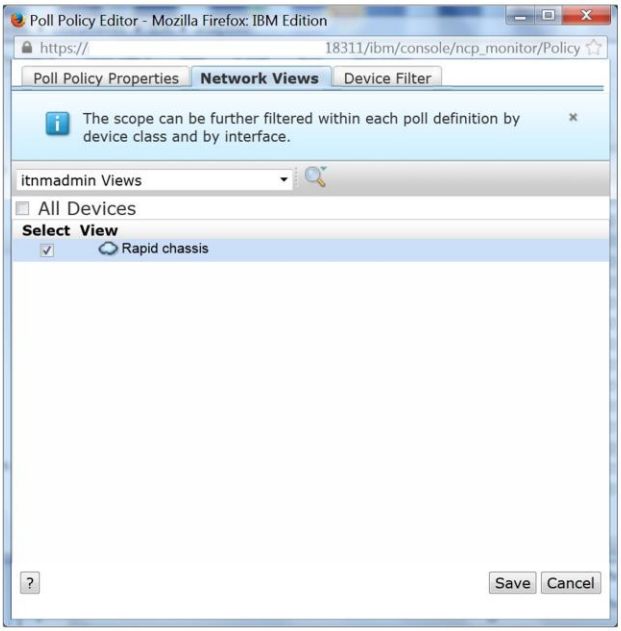
Adaptive polling commences with this policy and the polling will occur every 15 seconds. In this example, a chassis ping poll occurs at a 15-second interval.

The key parameter, poll only the view



Configuration of adaptive polling

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The network view tab shows the most important piece of filtering to make this adaptive poll work. Not all devices will be polled; only the devices that appear in the ‘rapid chassis’ view that was previously created. So the ConfirmDeviceDown poll happens only for devices that are from the default chassis ping, currently down, and have a Tally of 19 or less.

The 'command line' view, object server

```
1> select Tally, NmosDomainName, LocalNodeAlias from alerts.status where NmosDomainName = 'PCOM39' and EventId = 'NmosPingFail';
2> go
 Tally      NmosDomainName       LocalNodeAlias

  11 PCOM39       9.53.113.10
  11 PCOM39       9.53.113.11

(two rows affected)
```

```
1> select Tally, NmosDomainName, LocalNodeAlias from alerts.status where NmosDomainName = 'PCOM39' and EventId = 'NmosPingFail';
2> go
 Tally      NmosDomainName       LocalNodeAlias
12                PCOM39       9.53.113.10
 12               PCOM39       9.53.113.11

(two rows affected)
1>
```

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Note how fast the Tally increments. Once a device has a Tally of one and appears in the view, the ConfirmDeviceDown policy will rapidly poll this device. Every 15 seconds the event increments in Tally, or the device responds and it clears.

Review metrics with and without adaptive polling

- Without adaptive polling
  - Chassis ping poll interval 120 seconds
  - First failure, Tally=1 after 120 seconds
  - second failure, Tally=2 after 240 seconds
  - 18th failure, Tally = 18 after 36 minutes
- With adaptive polling (15-second interval)
  - Chassis ping poll interval 120 seconds
  - First failure, Tally=1 after 120 seconds
  - second failure, Tally=2 after 135 seconds
  - 18th failure, Tally = 18 after 375 seconds

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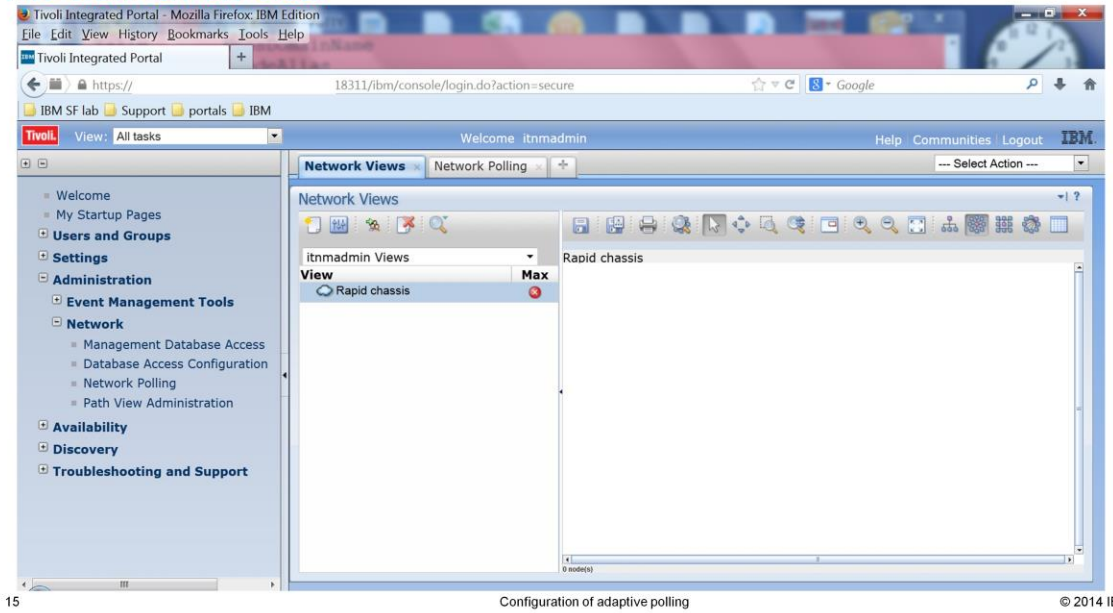
With adaptive polling enabled, devices that are down are quickly polled again in a rapid fashion. If an anomaly occurs, and the device was down for a short period, the event is quickly cleared and no action needs to be taken by an operator. If the device truly is down, it will use the chassis poll policy 18 times in approximately 6 minutes. Without the adaptive poller, it takes 36 minutes to see the same number of polls.

The view is now clear



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The network view is now cleared. What conclusion can be drawn? This device responded to one of the chassis ping or adaptive ping polls and the device is now up. Or the device is still down and the Tally of unanswered polls is now at 19. Typically it means that it was not a short anomaly and there is a significant outage to review.

Summary of adaptive polling

- Adaptive polling can be configured for ping based polls or SNMP-based polls.
- There is no change to existing polling. A view is created and a new policy added to enable such polling.
- Frequency interval and duration are configured by parameters in both the 'confirm device down policy and the newly created network view.
- Review Tivoli Network Manager blog for more details of practical examples

IBM Tivoli Network Manager blog

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Adaptive polling can be configured for both ping or SNMP-based poll policies. Review the Tivoli Network Manager blog for more examples of the timing and properties that are used by the adaptive poller.

Summary

Now that you completed this module, you can perform these tasks:

- Create adaptive polling policies for IBM Tivoli Network Manager version 3.9
- Understand configuration and properties that are associated with the building of these policies

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Now that you completed this module, you can create adaptive poll policies for Tivoli Network Manager, version 3.9

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