# Patch Management – Rings and rollouts

Hi everyone, in this video we’re going to have a look at the concepts behind Patch Management rings and rollouts.

You can probably imagine the nightmare scenario where you deploy a patch across your IT estate and then discover that it either didn’t install on most devices or, worse still, causes issues on many of the devices where it was installed. Creating deployment rings and then designing rollouts to deploy patches first to a test ring, and then only deploying to further rings after confirming the success of the previous ring can help mitigate these risks.

Let’s take a look at the big picture of how rings are built and what the process for configuring a rollout is. I’m going to leave the details of how to set this up for the help documentation that is linked in the description – this video will just cover the concepts.

Typically, you use three rings: test, early adopters, and production – although you can combine early adopters and production into a single production ring and go straight from your test ring to your production ring.

First, you need to add devices to each ring. A good starting point is to have 1% of your devices in the test ring, 9% in the early adopters’ ring, and the remaining 90% in the production ring. Some best practice suggestions for creating your rings: DO NOT put your CEO’s laptop into the test ring. In fact, it is best for your test ring to either comprise specific test machines, or to include the devices of people close to your team and who know what to expect. It is vital that people know that their devices are in the test ring.

Also, remember that patches can get automatically promoted to the next ring only if they meet the specified success criteria, so make sure that each ring contains devices running each of the applications that you want to patch. If none of the devices in your test ring have Firefox installed, then no Firefox patches can get automatically promoted from the test ring.

When you have your rings populated with the appropriate devices, you configure the success criteria that must be met before a patch can progress to the next ring. More on this later – for now, let’s consider what happens in a rollout.

For a rollout to run, it must be associated with a patch configuration. At the scheduled start of the rollout, all patches missing from the devices in the test ring that meet the criteria set in the patch configuration start to deploy. Then we wait…

One of the values you set when configuring a rollout is the soak time for a ring. This is the duration from when the deployment of the ring starts until it ends, at which point we calculate the success rate of each individual patch deployment. Only those patches that meet our success criteria are automatically promoted to the next ring – although you could choose to override this.

Choosing the correct soak time is a Goldilocks situation: too long, and your rollout will drag on; too short, and there won’t be time for the devices in a ring to successfully install the patches or to give you a realistic indication of how well the patch is being installed. You may need to experiment to determine what is “just right.”

In our example, we have set our success criteria to 75%. Patch 1 installed on 4 out of 5 devices – 80%, so this patch meets our success criteria and is promoted. Patch 2 installed on 3 of the 5 devices - 60%, so this patch DOES NOT meet our success criteria and is NOT promoted. Patches 3 and 4 installed on 100% of the devices, so both of these patches are promoted.

Shortly afterwards, the process repeats for the early adopter ring, and so on.

At the end of the rollout, review how things went. Investigate why specific patches were not promoted from the test ring and address any issues found. If these patches meet the criteria for the next rollout, then their deployment will be tried again – but they are likely to fail again unless you address the reasons that they failed the first time.

Also, note that although Patch 2 *was* promoted, it wasn’t installed on all devices. So, again, why did it fail on that device in the test ring? How can you improve its chances of deploying next time?

What advice should we give customers for addressing the failed patches? Find all the patches that failed across the rings and add them to a new patch group for the next rollout?

I hope you found this video useful. Remember to check the help for details on how to configure rings and rollouts, there is a link in the description. Thanks for watching.