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Debunking Myths About Power Entitlement

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In order to put fixes on your OSs or to put firmware on your servers you will need to pass an entitlement check. For those of us who have had to go through this and had it fail, it's not a pleasant experience to get it sorted out. The best way to avoid problems is to keep track of when your entitlements expire and when they need to be renewed. When discussing entitlement, software refers to SWMA (software maintenance agreements) and hardware refers to HWMA (hardware maintenance agreements). Additionally, for POWER8 and later hardware a UAK (update access key) is set on the system and it must be current in order to download and install firmware.

Software

When software such as AIX is purchased a SWMA agreement is also purchased at the same time. You can check the status of your SWMA (and therefore your entitlement) at the Entitled Systems Support (ESS) website.

Use of ESS assumes you've set yourself up with an IBM account and that you've added your customer number and serial numbers. In order to use the Entitled Systems Support site, you have to have an IBM account. When you first connect to the site it prompts you for a sign-in. If you don't have one already you can request one by clicking on "create an IBM id" towards the bottom under the box that says "Sign in." Once you're signed in to ESS you can now add your systems and get status information.

There are multiple options in the left sidebar for you to choose from. The two key options are "My entitled Software" and "My entitled Hardware".

"My entitled Software" provides support for POWER (AIX and IBM i) and storage software. It allows you to place software orders and download software, retrieve software keys and manage entitlements for IBM i, and to verify SWMA records for POWER systems and storage.

"My entitled hardware" provides support for UAKs (update access keys for POWER8). You can view, download and request UAKs, view and download existing COD codes, request new COD codes and purchase new Elastic upgrades. We will discuss these under hardware.

Once you get to the site you click on "My entitled software." You can then click on Entitlements in the left-hand sidebar—type your server serial number here and click on the arrow to the right of it. The site then lists all the software that you have entitlements for, and you can click to view details. This will create an electronic Proof of Entitlement (ePOE) that includes details such as the customer number, server model and serial, software serial, proof number and whether the SWMA is active. Having this information is very useful if you have to talk to the people in the entitlement office.

Now you click on SWMA Records in the left-hand sidebar. Enter the customer number, server model and serial number, then click the arrow to the right of the serial number. This will show you the SWMA records including the system/contract number. It also provides you with the expiration date of your current SWMA contract.

You can also click on Data Report in the left-hand sidebar. Select the customer number and serial number and the type of report you want to generate. Options for SWMA inventory reports are active, expires within 3 months and inactive. You can also get ePOE reports, a key version /release inventory

report for active keys, or the permanent key installation commands for servers. You can also request a SWMA inventory report – all. These reports do not come back instantly—they will be emailed to you.

To obtain software updates, click on "software updates" in the left sidebar. Make sure you select the correct brand on the right side—the default is POWER/AIX. After you put the serial number in you will receive a list of software (has to have current SWMA) and you can decide what to order. This is where you would request software such as the AIX v7.2 base DVDs and update media, expansion packs, etc. After selecting the product, click continue, which brings you to the terms and conditions. You can then choose to download the order immediately or have it shipped to you on DVDs. In the future this may change to download only so it is good to become familiar with that process. If you choose to download it now you will be taken to "software downloads" where you select the software and click on continue. You then select it again and click on continue. When the prompt for terms and conditions comes up, click on "I agree." Download Director is selected by default for the download but you can select using HTTP towards the bottom beneath the "Download Now" box. This brings you up a list of tar.gz or .iso images to select from to download, which is how you would download IBM I images, AIX images, PowerVM images, etc.

Hardware and UAKs

Since POWER8, IBM has added a feature called a UAK to its servers. There are multiple ways you can check these. In order to install firmware you must have a current UAK installed for the server. The UAK is checked when system firmware updates are applied to the system. UAKs include an expiration date. As these update access keys expire, they need to be replaced using either the Hardware Management Console (HMC), the Advanced Management Interface (ASMI) on the service processor, or directly using the update_flash command.

You will receive warnings starting about 30 days prior to when your UAK expires but it is best to update the UAK prior to that. You can check your UAK status as follows:

1. On the HMC: ssh to the HMC lslic -m ??????? -F mtms,update_access_key_exp_date where ?????? is the managed system name It will reply with a line that includes the managed system name and the expiry date

2. Using "My Entitled Hardware" on ESS site Click on "My Entitled Hardware" Click on "UAK – view, download and request keys" Enter the machine type and serial. Note you need the full 7 characters for the serial, not just the 5 we normally use. Click on "Add" and it will list the server below along with its key expiration date. You can then select the server and download, view or request new standard keys. If you select "view keys" it puts the full key out to the right of the expiry date.

Under "My entitled Hardware" you can also download and view COD keys for memory and processor core activations.

Confusion around UAKs

The confusion around UAKs stems from how long they are provided for and what happens when you renew them. When you purchase a POWER8 server your initial UAK is installed for you and it is valid for the life of the default warranty for that system. The default warranty period for servers is as follows: E850 and below 3 years E870 and above 1 year Even if you uplift your E870 and above to 3 years or more the UAK will only be for 1 year, as it is based on the default warranty period.

In order to update your UAK you will need to know your server's machine type, serial number, and the country of installation. You can go to the ESS site and request a new key in "My entitled Hardware", "View, download and request update access keys". However, if you do not have a current HWMA the request will be denied.

You should also be aware that the replacement UAK will not necessarily be co-terminous with your HWMA end date. New keys, beyond the initial warranty period, are only issued for 180 days. The FAQ is very clear on how UAKs work and explains that the replacement is only for 180 days but there's been a

great deal of confusion about this so I wanted to stress it again. You should also note that even if your UAK expires you can still install firmware that came out during the period that you were entitled—this only affects anything after the date it expired.

If you are using ESA (electronic service agent), you can set it up to automatically download new UAKs. In the references below, there's an excellent article on "Configuring UAK Management Settings" that explains how to do this.

Summary

Understanding entitlement is an important part of systems administration today. You want to know that when you try to place a support call for hardware or software that you're going to be able to get help immediately without being sent to the entitlement team. I highly recommend that you check both software and hardware entitlement any time you install a new server. If IBM or the business partner misses a step, entitlement may not be set correctly, and it's best to discover this prior to going live. Additionally, I would regularly check the software and hardware entitlements for all the servers you have. Put those expiry dates in a spreadsheet where you can find them easily—it doesn't take a lot of work to avoid a big problem. I've been that person on the weekend placing a support call and hearing the words "We need to put you through to entitlement." This can be avoided by doing a few checks and is worth the time and effort.

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