IBM Configurator
for e-business

an e-business solution

iSeries e-config Tips and Techniques
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Introduction:

The purpose of this document is to provide iSeries and AS/400 e-config users information to assist them in the creation of iSeries and AS/400 configurations. Additional application tips and techniques can be found at the following URLs:

1. By selecting the 'FAQ' link located on the bottom navigation bar of the Web Version home page. http://ecfgl2.dfw.ibm.com/econfigfaq/
2. From the Release Notes http://ftp.ibmlink.ibm.com/econfig/README/INDEX.HTM
3. From the e-config Self Study http://xconfig.boulder.ibm.com/ssguide/common/support/faq_ssguide.htm

Tip/Technique 1: *External tape device selection*

External tape controllers such as feature 2749, Magnetic Media Controller, are auto-configured by e-config when a 'Final Validation' is performed. It is not necessary to explicitly select a controller such as feature 2749 on the System Options\IOPs panel. If an explicit selection is made on the IOPs panel, an additional feature 2749 will NOT be auto-configured.
The correct procedure for Selecting an external tape during an initial order configuration:
1- Configure the iSeries system from the iSeries 400 and AS/400 Systems wizard found in the 'Hardware' folder.
2- Select the 'Peripherals' folder and configure an external tape such as a 3490-F00. If the configuration report is viewed at this point (prior to performing a Final Validation) a tape controller will not be present on the 9406 system.
3- From the 'Messages' folder perform a Final Validation.
4- View the configuration report and an external controller is now included.
Note: The configurator uses both external tape specify feature codes (eg. #0056, 0038,..) and external tape devices in the configuration (3590, 7208, ...) to determine the required quantity of IOP/IOAs.

Tip/Technique 2: *Remote tape specify feature codes*

Selecting a remote tape specify feature code such as feature 0038,'3590-B11/B1A SHARED', on the System Options\Tape panel will result in a tape controller feature such as feature 2749 to be included on the iSeries system and not a 3590-B11. Feature 0038 indicates the 3590-B11 is attached to another host system and remotely to the iSeries system being configured.

Tip/Technique 3: *Customer supplied devices*

A common mistake during configuration is a user making an explicit selection of a controller such as feature 2749 on the System Options\IOPs panel.
The correct procedure for selecting customer supplied device during an initial order configuration:
1- Configure the iSeries system from the iSeries 400 and AS/400 Systems wizard found in the 'Hardware' folder.
2- Select the 'Peripherals' folder and configure an external device such as a 3490-F00 tape. Select 'Customer Supplied' from the Quantity\Source control (the default is New Order). If the configuration report is viewed at this point (prior to performing a Final Validation) a tape controller and a specify code indicating a customer supplied tape exists such as feature 0023 will not be present on the 9406 system.
3- From the 'Messages' folder perform a Final Validation.

4- View the configuration report and an external controller, 2749, and specify code 0023 are now included.

Tip/Technique 4: *System console selection*
In the past an iSeries 400 or AS/400 system console was defaulted by the configurator. That resulted in either feature 5540 Twinaxial System Console or feature 5544 System Console on Op Console being included in the configuration. On all new initial order configurations a system console must be selected from the System Options -->WSC/Console panel. If an explicit selection is not made and 'Configure' is performed a FATAL error message dialog is sent indicating 'You must select a Primary System Console from the WSC/Console page.' In the past a Twinaxial controller was not available to select until a controller was 1st selected. Now all console options (Op Console, Twinaxial, LAN) are available at all times.

LAN console selection notes:
If a LAN console is selected, for example #5548 Ethernet and you DO NOT have a LAN eg. #4838 (Ethernet IOA) also selected, e-config will auto-configure (1) #4838. If you select #5548 and also select #4838, e-config will NOT ADD an additional #4838. Anytime a LAN console is selected a message is placed in the message log.
'*9406-xxx: 4838 PCI 100/10Mbps Ethernet IOA serving as system console is dedicated and cannot be used for other system LAN functions.*'

Tip/Technique 5: *Selecting the memory expansion feature (feature 2881 Memory Reiser card)*
This feature is only available on the Model 830 and is found on the 'Processor' selection panel. It will not be visible for selection on non-830 models.

Tip/Technique 6: *The System Diagram*
The system diagram represents a 'marketing' view of the system configuration. In most, but not all cases, it is a representation of how Manufacturing will build the system. At times the system diagram will not be built exactly the same as depicted in the system diagram. In all cases the system diagram represents a valid system.

Tip/Technique 7: *iSeries Upgrade considerations when features #2621 and #0021 exist on the installed system*
E-config validation performed during an upgrade (BaseEdit) requires that the quantity of feature #2621 be no less than the quantity of feature #0021. If this requirement is not met, e-config will add feature #2621 (and any necessary supporting hardware) to satisfy the requirement. If your installed system contains any of the following features: #2729, #2749, or #6534 instead of a #2621, take the follows corrective actions:
1- remove feature #0021
2- Add feature #0008 in BaseEdit so that e-config will validate either feature #2729, #2749, or #6534 as a valid tape driver instead of requiring a feature #2621.

Tip/Technique 8: *HSL Cable handling Models 270, 820, 830, 840*
This FAQ is intended to provide information regarding how HSL and related SPCN cables are handled by the configurator. It is not intended to describe or provide detailed guidance on HSL loop requirements and physical planning activities that may be required as part of installation planning.

Where do I make selections for HSL and SPCN cables?
On the 'System Options\Expansions' page using the 'Expansion Unit Cables'
selection control.
Basic function:
The configurator will auto-configure the minimum number of HSL and SPCN cables
required for a configuration. The user is not required to explicitly select
HSL or SPCN cables.   If cables are auto-configured, an informational message
is created and is accessible by the user that indicates this was done.   The
user may explicitly select cables that meet the unique customer requirements
for number of HSL loops and cable lengths.

The general rule of thumb used by the configurator is (1) 6M HSL cable for
each expansion tower and (1) 15M HSL cable to return each HSL loop. The
configurator configures the minimum quantity of loops possible.

If additional HSL cables are desired a quantity greater than the maximum
number of HSL cables allowed on the system may be selected by the user. An
informational message will be generated indicating more cables have been
selected than are possible to use on the system. Additional SPCN cables may
not be selected.

Defaults:
9406-8xx System with n expansion towers (#5074, #5075):
        (n) 6M HSL cables
        (n/4 [rounded up]) 15M HSL cables
        (n) SPCN cables
9406-830 System with #5077
        (1) 6M HSL cable (if no FC #2695)
        (2) 6M HSL cables (if one or two FC #2695)
        (1) 6M SPCN cable
9406-840 System with no #5077
        (2) 6M HSL cables
        (1) 6M SPCN cable
9406-840 System with #5077
        (2) 6M HSL cables (if no FC #2695)
        (3) 6M HSL cables (if one or two FC #2695)
        (2) 6M SPCN cables

Model 270 with #5075 expansion
        (2) 6M HSL and (1) 6M SPCN

Cable lengths will be matched between HSL and SPCN for example if a 6M HSL
cable is defaulted, 6M SPCN will also be defaulted. The exception is for 3M
HSL cables the default for SPCN is 2M since no 3M exists.

Special notes:
1- On initial orders or upgrades to a 9406-830, (1) 3M HSL cable is required
in addition to what is listed as default above. This will be included in the
configuration and cannot be removed.
2- Model 270:
        - No 15M cables are allowed
        - HSL support is for single loop and single tower (5075)
         only
3- Model 820
        - If there are ANY requirements for an HSL cable, 1 cable   must
be either a 3M or a 6M
4- On an 8xx system with a migration tower, does the migration tower count as
one of the expansion towers allowed on the 8xx side of the system? i.e., on
the 820 the max #5074s allowed is 5 - is this reduced to 4 on a migrated
system since the #503x would count as one of the possible expansions?

Answer: A migration tower counts as a tower on the loop. If a #503x migration tower is present on an 820 for example, then only 4 other "towers" can be added.
5- Model 830 HSL cable handling
This note is to clarify the HSL cable requirements for the first HSL loop on a Model 830.

It may be thought that the #9074 of the Model 830 was the only tower allowed on the first HSL loop, and always required a 3m HSL cable. Later the I-Plan was clarified on this subject, and I learned that if a migration tower (#503x or #5077) is configured, it will also be on the first HSL loop (with the #9074). **The diagrams in the I-Plan (Sections 13.25 and 13.26) have a note at the bottom explaining that the 3m HSL cable for redundancy is not needed when a #503x or #5077 is attached, as the migration tower is on the first loop.**

There are two ports on the CEC for each HSL loop, and there are two HSL ports on each expansion. One of the Model 830 CEC ports on the first loop is used to connect the #9074 by means of an internal HSL cable that is not actually seen on the system order. When there is no migration tower, a 3m HSL feature cable is added between the other port of that loop on the CEC and the other port on the #9074, forming an HSL redundant loop with only the #9074 and CEC on it.

When a migration tower (#5077 or #503x) is added to that loop, the 3m feature cable to the #9074 must be disconnected in order to allow the migration tower to be connected to the other CEC port of that same loop. Since the cable length for any external expansion (as opposed to what I'll call the 'internal' #9074 expansion for the Model 830) is defaulted to 6m, e-config adds 6m HSL cables as necessary for the migration tower.

There are two ports on each migration tower as well. Both ports of a #503x migration tower are always connected to other hardware using HSL cables. When a #503x migration tower is configured, the first loop on a Model 830 will have HSL cables that connect the CEC to the #9074 (by means of the internal cable that is always installed but never ordered), the #9074 to the #503x, and the #503x back to the CEC.

The #5077 is different with regard to HSL cabling. On the #5077, only one of the HSL ports is always used. It connects to the part of the #5077 that contains the base optical bus adapter. The other port on the #5077 only serves the part of the #5077 that may contain #2695 feature optical bus adapters. If there are no #2695 features on the configuration, the second cable can still be physically connected (because the ports still exist physically), but it will serve no purpose because it only connects to the #2695 feature slots. If there is a #2695 on the configuration, a second 6m cable is used to connect the #5077 (#2695 side) to the available port on the #9074 (that the 3m redundancy cable would normally be connected to), making the 'loop' appear the same as with a #503x.

There is no bus connection between the side of the #5077 that contains the base optical bus adapter and the side of the #5077 that may contain zero, one, or two #2695 feature bus adapters. This means that whenever a #5077 is configured, the 'loop' is broken at the #5077, regardless of whether there are one or two cables connecting that #5077. A 'loop' with a #5077 is not a loop at all because the redundant path does not exist.

Here are these quick rules/facts that e-config uses/enforces regarding Model 830 'first loop' HSL cabling in bullet form:
   A 3m cable is required between the CEC and the #9074 when there's no migration tower

The 3m cable between the CEC and #9074 is displaced whenever a migration
tower is configured
6m cables are the shortest recommended for connecting towers (except for
the #9074). e-config will automatically add 6m cables to connect towers,
but if 3m cables are explicitly selected on e-config screens, they will
apply to satisfy any cable quantity requirements, and length requirements
are not considered in this case (the customer gets the cables that he
explicitly ordered)
A #503x requires two connections and will complete an HSL loop
A #5077 requires one HSL cable for the base adapter side
A #5077 requires a second HSL cable if one or two #2695 features is
configured
Regardless of whether one or two cables connect the #5077, there will be no
redundancy in a 'loop' containing a #5077

The rules for the #5077 on the Model 840 are basically the same ... only one
cable is required for a #5077 unless a #2695 is also configured to require a
second.

Tip/Technique 9: *Handling of withdrawn tapes during an iSeries
upgrade:*
When upgrading a system which has a withdrawn device, if you wish to change
the way this device is attached to the system and it's attachment is indicated
via a particular feature code which has been withdrawn, then you must remove
this device and add one like it as 'Customer Supplied'. When the device is
selected as 'Customer Supplied', all announced features will be available for
selection so you may indicate how this device is now attached. This 'Customer
Supplied' device, and it's features, will NOT show up on the output CFReport,
so these features will have to be obtained through another source. These
features WILL be used to indicate to the iSeries system how this device is
attached and the appropriate iSeries feature codes will be added to the
configuration for this attachment.

Tip/Technique 10: *Adding withdrawn external tapes during an
iSeries upgrade:*
Some examples of withdrawn tape specify feature codes are:
```
    0023 3490-E01/F0x Lcl Src Stnd Alone
    0036 3490-E11 Lcl Src Rck Mnt
    0054 3490-E11 Lcl Src Side Mnt
    0063 3490-F11 Lcl Src/Fld Mrg
    0064 3490-Fxx Lcl Src/Fld Mrg
    0065 3490-Cxx SCSI Lcl Src RkMt
    0067 3490-Cxx SCSI Library Mnt
    0037 3590-B11/E11 Lcl Src Rck Mnt
    0051 3570-X11 Fld Mrg Rck Mnt
    0056 3590-B11/E11 Lcl Src Side Mnt
    0082 3570-x0x Fld Mrg Std Aln
    0087 7207-122 Attach
```

These tape specify codes are selected in e-config by adding the actual tape
device from the Peripherals --> Storage-Withdrawn-Tape. From here, you select
the tape, configure it, and do a 'Final Validation'
and the specify code will show up on the CFReport.

For example, if you want to 'select' specify code 0036 "3490-E11 Lcl Src Rck
Mnt", do the following:
    1- Double-click on 'Storage-Withdrawn-Tape'
    2- Select '3490-E11 3490e 1-drive rack-mount unit' from the
list of available tapes (by double-clicking on it or

selecting it and clicking on 'Add Product'.
        Note: in the control labeled 'Source', it says 'Customer Supplied' and
this is the only choice available.
        3- Make any selections needed to indicate how this tape will be
connected to the iSeries system.
        4- Click 'OK'
        5- Click 'Configure'
        6- Do 'Final Validation'

When you view the CFReport at this point, there will be a 0036 under the
9406-730. There will NOT be a 3490-E11 on the CFReport since it is customer
supplied.

Tip/Technique 11:*Load source rules*
The following logic is used by the configurator for load source disk. All
Model 8xx and 270 upgrades are shipped as functional systems and thus require
a load source to be shipped with the upgrade.   Manufacturing does not
activate mirroring or RAID on upgrades. The operating system is pumped from
the customer current load source to the new load source and thus the new load
source must be at least as large as the current load source.

-8xx and 270 systems only allow PCI disk units (43xx) to be load source, and
only 8GB or larger
-8xx and 270 systems only allow 8GB or larger PCI disk units to be added to an
order
-For 8xx and 270 systems, the configurator will only allow a PCI disk unit to
be selected as load source, and only if 8GB or larger

Initial order load source:

-Default the lowest speed, smallest capacity disk unit
-Only allow the load source selection to be the lowest speed, smallest
capacity disk unit selected
Non-8xx to 8xx Upgrade load source:
-Default a disk unit equivalent to the customer's current load source (like
size and rpm). If the current loadsource is 4GB or smaller, default like
initial order.
-Only allow the load source selection to be for a disk unit that was added to
the order, and only the lowest speed of:
- 17GB disk unit
- or smallest capacity (if 17GB is not added) that is >= the installed load
source capacity

8xx/270 to 8xx/270 Upgrade:
-Allow any valid load source selection

Tip/Technique 12: *Configuring feature 3196, 8192MB Main Storage
Card* The 8192MB main storage feature is only available on 9406-840
configurations with total memory greater than 65536MB.

Tip/Technique 13: *Handling of withdrawn external tape devices
when performing a upgrade or NEWSYS configuration (IC24011a)*
Example 1: A scenario to be aware of is when performing an upgrade or NEWSYS
with a 9348-001 (withdrawn tape) on the base system. Feature 2621 may be
added to support this device and yet is withdrawn.
- The way to handle this situation in e-config is by removing the existing
9348-001 and adding a customer supplied one via the
'Storage-Tapes-Withdrawn' category under the 'Peripherals' folder tab where
you can specify the cable which connects via a 2729/6534.

- e-config is providing a function that the legacy configurator did not. It
keeps existing external devices on a NEWSYS order. This is an advantage in
most circumstances. In this particular case it is a disadvantage in the fact
that the user must manually remove the existing tape.
- If this were a regular upgrade order (as opposed to a NEWSYS) on e-config,
you would not be able to change the existing 9348-001 to indicate a different
connection to the server since the cables are withdrawn. In this case, you
would have to remove the existing 9348-001 and add a customer supplied one to
indicate a new connection.

Example 2: These tape specify codes are selected in e-config by adding the
actual tape device from the 'Peripherals' tab, and then the
'Storage-Withdrawn-Tape' category. From here, you select the tape, configure
it, and do a 'Final Validation'
and the specify code will show up on the CFReport.

For example, if you want to 'select' specify code 0036 "3490-E11 Lcl Src Rck
Mnt", do the following:

1-Double-click on 'Storage-Withdrawn-Tape'
2-Select '3490-E11 3490e 1-drive rack-mount unit' from the list of available
tapes (by double-clicking on it or selecting it and clicking on 'Add Product'.
Note in the control labeled 'Source', it says 'Customer Supplied' and this is
the only choice available.
3- Make any selections needed to indicate how this tape will be connected to
the AS/400.
4-Click 'OK'
5-Click 'Configure'
6-Do 'Final Validation'

When you view the CFReport at this point, there will be a 0036 under the
9406-730. There will NOT be a 3490-E11 on the CFReport since it is customer
supplied.

The above is similar to the legacy configurator, but in e-config you are
selecting the actual tape from a list instead of selecting 'dummy' specify
codes (i.e. 036A for the above example) that will generate the real specify
codes.

Example 3: Trying to add feature 0021 for a 7208-xxx tape device
It is not possible to do this on an initial order - 0021 indicates a 7208-xxx
attached to the ISERIES SYSTEM via a 2621, but the
2621 has been withdrawn (effective 6/30/2000) so this attachment is not valid
on initial order. However, the 7208-xxx
CAN be attached via a 2729 or 6534 on initial order, but this would generate a
0008 code instead, but would still
satisfy the requirement of the 5514 AIPL code.

The 7208-234 must be selected under 'Storage -> Withdrawn -> Tape' from the
'Peripherals' folder.
The proper cables must be selected to indicate connection to a 2729/6534 card
on the iSeries 400 or AS/400 System (feature 9151, 9180, or 9181). After
configuring this and performing a final validation, the 0008 code will be
automatically generated on the
output configuration report.

Tip/Technique 14: *AIPL processing*
The configurator includes a tape device feature based on the AIPL selection or
requires the user to navigate to the 'Peripherals' folder to select an

external tape device to match the AIPL selected. If the AIPL and an explicit
tape selection made match, then a tape device feature is not auto-configured
(added) by the configurator. If one does not match, the configurator will
auto-configure (add) a tape device feature (internal) to match the AIPL
specified or send a FATAL error message to select an external tape from the
'Peripherals' folder. The AIPL is selected on the 'Basic Options' panel.

Tip/Technique 15: *Using the 'Selected Items' tables on the System
Options, Basic Options, and Opticonnect panels*
The tables on these panels provide summary information for what is currently
included in the configuration. The columns in this table are:
1- Description: Feature code and/or description of item
2- Added: Used to show the quantity of auto-configured items
3- Base: Used to show the items/quantities included in the base
system during an upgrade (not applicable yet shown during an initial order
configuration)
4- Selected: Used to show the items/quantities selected on an initial
order or upgrade (proposed system). These items are either explicitly
selected by the user or defaults by the configurator.

These tables provide information on what items/quantities were auto-configured
for the user. This information is only updated after each time the
'Configure' button is selected. It is not updated as each individual
configuration selection is being made on various panels such as Disk, Tape, or
WSC/Console. To access a specific page quickly, double click on the desired
row in the table.

Tip/Technique 16: *What AS/400 and iSeries hardware models are
supported by the configurator?*
We have something called 'proxied' support in the configurator. What that
means is a product is recognized when brought into base edit but no validation
is done and the product is not removed. If a product is not proxied or
supported, it is removed in base edit. The other support we have is the
product is 'modeled' (full support) which means we validate it in base edit.

Product (Hardware)	Support	What can you do during an upgrade configuration?
AS/400 B Models	Proxied	NEWSYS only
AS/400 Models C --> 5xx	Modeled	MES or NEWSYS
AS/400 Models 6xx	Modeled	MES or NEWSYS
AS/400 Models 7xx	Modeled	MES, model upgrade, or NEWSYS
iSeries Models 8xx	Modeled	MES, model upgrade, NEWSYS

Software

V2R3 --> V5R1	Modeled

Tip/Technique 17: *Integrated Server configuration*
On the System Options --> Integ Svr page the configurator user can select
'Integrated Servers' in a table by specifying quantities PCI or SPD features
such as #2791, 'PCI xSeries Integrated Server'. Each selection previously
identified a memory size such as 1024 MB for each #2791. This is no longer
true and a separate selection is provided to select quantities of memory
features, 'Memory for Integrated Servers'. Currently when an AS/400 or
iSeries order is processed by IBM Manufacturing the IPCS memory ordered is

spread evenly across all the Integrated Server features ordered (for example #2791). During configuration, the memory selections can not be 'assigned' or to individual Integrated Servers selected.

Tip/Technique 18: *Selecting 'Add'l IOPs' versus 'IOPs'*
There are 2 IOP selection pages found at System Options --> IOPs and System Options --> Add'l IOPs
The fundamental difference between these 2 pages is on the IOPs page, selections WILL be used to satisfy CO-requisite requirements while selections on the Add'l IOPs page will not.
For example if a 'PCI RAID Disk Unit Controller (4748/9748)' is selected on the System Options --> IOPs page it will be used to satisfy any logical partitioning CO-requisite that may exist.

Tip/Technique 19: *Configuring from the system diagram*
A shortcut to specific configuration pages can be done by using the system diagram and using a double click on the item in the diagram to change. Depending on where the user clicks in the diagram will affect which configuration pages are accessible. For example if you double click on a disk unit such as 'U8GB' the System Options --> Disk page is displayed and you can also access all other pages for System Options such as 'Tape', 'IOPs', etc. If you need to change your default modem or default UPS selection you cannot since they are selectable only on the Basic Options page. To have all configuration pages selectable (Processor, System Options, Basic Options, Opticonnect, and 9309 Racks) double click on the system title TEXT in the diagram, for example '9406-830 System Unit'. At times there can be interdependencies on multiple pages and unless they are accessible, you may not be able to resolve an error condition and have to exit the selection page and return using another starting point.

Tip/Technique 20: *Keeping the higher processor group for software licenses during an upgrade*
If during an upgrade the installed system software licenses are at a higher processor group level than the proposed system, you may choose to keep the higher processor group the customer is entitled to.
Go to Software Global Options --> Miscellaneous --> Options --> select 'Keep higher processor group' check box.
This selection may also be accessed by visiting the messages view where the following message is placed:
"The following entitlements have a higher processor group that your hardware requires:
 by default the configurator will use the processor level of your hardware selection.
 To keep the higher processor level across all listed entitlements, use the Jump To Wizard
 function, then visit the Miscellaneous Panel, then click on "Keep higher processor group.
 To keep the higher processor group for individual entitlements, Edit the desired entitlement
 and change the processor level accordingly."

Tip/Technique 21: *How do I upgrade my software from V3R7 to V4R5 or from VnRn to VnRn when the upgrade is not physically possible?*
This particular upgrade path is not a valid path. In other words this upgrade cannot physically be performed. Under the following upgrade conditions a message will be presented to the user: When upgrading from V3R6 to V4R2 or higher, or from V3R7 to V4R4 or higher. The configurator will allow this upgrade and present the following message:
 "You have selected a software upgrade that is valid from a discounted billing perspective, but you cannot install V3R7 over V4R5. Please contact your technical support group for detailed upgrade planning assistance."

The configurator allows the upgrade to be performed from a billing perspective only so the upgrade costs can be identified only. The configurator user needs to contact the technical support (Techline) in their country for assistance in how the physical upgrade can be completed. The configurator message is updated dynamically to reflect the VnRn upgrade of the configuration. There are other upgrade paths that are allowed to be configured but that are not physically possible (in addition to V3R7 to V4R5) such as V4R3 to V5R1 that will be identified by this message when appropriate.
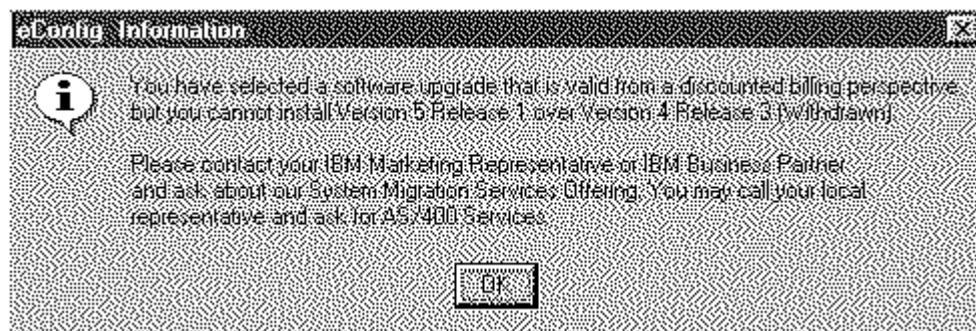
Tip/Technique 22: *Upgrading XW1 processor based software*
During the upgrade the correct processor based upgrade billing feature codes may not be generated. The following steps may be performed to generate the desired processor based upgrade feature codes.

1) Import Local Configuration report --> Validate --> Start Upgrade
2) Select desired system model, cpu, and interactive processor (if required)
3) Select 'Software Products (iSeries 400 and AS/400 Systems)'
3) Edit "5769-XW1 Client Access Windows Family: Optional Licenses"
Note: Because there aren't any feature codes indicating the base the configurator will default to the user based option and the user must specify that they had the processor based option in the base.
4) Deselect User-Based option and Select Processor Based option
5) Click Next (once or twice until you see the 'Upgrade From' control.
Note: This is the page where you can indicate where you are upgrading from. By default the configurator is set to the 5769-XW1-User based Option, which needs to be changed for this scenario. Since we are upgrading the Processor Based Option we should indicate MES which means an upgrade of its self.
6) Change value of "Upgrade From" control to be "MES"
7) Click Next
Note: The "Installed Processor Group" control and it is default to Pxx which is the processor level of the installed hardware.
8) Click the Configure button
Now view the configuration report and notice one billing feature code is output that indicates an upgrade from Pxx to Pxx.

Tip/Technique 23: *How to select 5733-SMS Integrated Software Subscription*
iSeries 400 and AS/400 Software subscription is available in both standalone version (SM1-5, and SMM) or integrated with ServiceSuite (SMS). The configurator defaults to 3 year prepay SM3. In order to select the SMS version, the user must first deselect SM3 under the Software Subscription Category, then navigate to the Services Category and add Software subscription integrated with ServiceSuite.

Please note on the disconnected (mobile) version if the user selects the 'Messages' folder tab, there will be an informational message indicating this information. On the web version the message will be displayed at the top of the web page in red.
Note: The text of the informational message is as follows:
"To integrate IBM Software Subscription for AS/400 with an IBM ServiceSuite or IBM ServiceElect contract, deselect standalone Software Subscription at this time and proceed to the service section of this configurator."

Tip/Technique 24: *Change Base Rules* (**12 rules**)
The following are detailed examples for the Change Base function. The original base is (B1). The original upgrade is (U1). The changed base is (B2). The second upgrade is (U2) which is a result of applying (U1) to the changed (B2) base.

Rule #1
If a proper match (through serial numbers) can not be found between a modified MTM in upgrade (U1) and the ones in change base (B2), the changes in the upgraded MTM will be ignored. The only exception to this is the ISERIES SYSTEM and its related SW.

EXPECTATIONS:
U1 Upgrade changes specific to an installed 7208 tape are ignored after Change Base modification of 7208 serial number.

SCENARIO:
B1 - Includes installed 720 AS/400 System with existing 7208-342

U1 (delta) - Includes the following HW upgrades -
            (partial list)

```
Hardware MESs
7208-342  8MM EXTERNAL TAPE DRIVE            1
Additions
    2016  FIVE 8MM CLEANER CARTRIDGES        1
    2019  5-8MM DATA  CARTRIDGES             2
    5212  12 METER SCSI CABLE                2
          Serial: 0000P2240           Total    1458.00

9404-720  AS/400E SERVER                     1
Feature conversions
    2062  MODEL 720 PROCESSOR (256MB)       -1
    2064  MOD 720 4-WAY PROC (256MB)         1

Additions
    0003  NOTIFY CSO AFTER INSTALL           1
    0008  ULTRA SCSI ATTACH 7208-342         1
```

```
         2924   ENGLISH                                 1
                Serial: 000039959                   Total
```

CB (change base modifications) -

Base System Modification Summary
+---+
only change was to switch 7208 serial number from P2240 to 1709D

FINDINGS:
U2 upgrade output DOES NOT include the 7208 cartridge and SCSI
cable additions that were selected during the U1 upgrade for the
7208.

****

Rule #2

If a new MTM is added during the upgrade (U1), add the new MTM to
upgrade (U2) even if the same MTM is added to the change base
(B2) assuming the new MTM is still valid. For example, if a
7208/222 is added during the upgrade (U1), continue to add a
7208/222 to the upgrade (U2) even if the change to the change
base (B2) added a 7208/222 (Net result of two 7208s in proposed,
one being a new order, one on the install base)

EXPECTATIONS:
Upgrade generates an addition for MTM 9910-EP8 (UPS) in U1.
Then, ChangeBase to include an existing 9910-EP8, and verify
that U1 upgrade is applied appropriately on U2, as per rule 2.

SCENARIO:
B1 - Includes installed 720 AS/400 System with NO 9910-EP8.

U1 (delta) - Includes the following HW upgrades -
             (partial list)

Hardware New Orders
* 9910-EP8   UNINTERRUPTIBLE/POWER SYSTEM   1
       6566   POWERWARE PPDM FOR 9910-EP8   1
       6603   EXIDE BATTERY PK 4500-6000VA   1

Hardware MESs
9406-720   AS/400E SERVER   1
Feature conversions
      1500   INTERACTIVE CARD   -1
*   1502   INTERACTIVE CARD   1
      2061   MODEL 720 PROCESSOR (256MB)   -1
*   2063   MOD 720 2-WAY PROC (256MB)   1
```

```
Additions
     0003  NOTIFY CSO AFTER INSTALL          1
     1401  200V 14-FT LINE CORD              1
     2688  OPTICAL LINK PROC(1063MBPS)       1
     2748  PCI RAID DISK UNIT CTLR           1
     2924  ENGLISH                           1
*    3001  32MB MAIN STORAGE                 6
*    4318  17.54GB 10K RPM DISK UNIT         4
     5065  STORAGE/PCI EXPANSION TOWER       1
Removals
     5000  SW PRELOAD REQUIRED              -1
```

CB (change base modifications) -

Base System Modification Summary
```
+-----------------------------------------------------+
```
only change was to add the following to the base:
```
  9910-EP8  UNINTERRUPTIBLE/POWER SYSTEM     1
      6566  POWERWARE PPDM FOR 9910-EP8      1
      6603  EXIDE BATTERY PK 4500-6000VA     1
```

FINDINGS:
A quantity of two 9910-EP8s will be reflected on the
Proposed Hardware section of the U2 output. One
9910-EP8 will be reflected as installed, with one
9910-EP8 added in the delta (NEW ORDER) section.

****

Rule #3

If the new MTM added during the upgrade (U1) is no longer
valid in upgrade (U2), do not restore the new MTM. A message
will be displayed (see #12)

EXPECTATIONS:
On installed AS/400 system with V4R4 software, including
precursor 5769-WDS products, run upgrade to V4R5, verify
that 5769-WDS is generated with upgrade features U1
Proposed Software section, then ChangeBase to remove all
precursor WDS software and verify that WDS is not
configured on U2.

SCENARIO:
B1 (partial list) -

Includes installed 720 AS/400 System

```
5755-AS5  V4 SYSTEM PROGRAM ORDER             1
    2105  LANG DIC (5716-DCT)                 1
    2501  OS/400 (5769-SS1)                   1
    2512  ILE RPG (5769-RG1)                  1
    2513  ILE COBOL (5769-CB1)                1
    2526  ADTS (5769-PW1)                     1
    2527  ILE C (5769-CX2)                    1
    2529  TCP/IP/400 (5769-SS1)               1
    2553  HTTP SERVER AS400 (5769-SS1)        1
    2556  PERF MANAGER (5769-SS1)             1
    2585  JAVA TOOLS (5769-SS1)               1
    2586  JAVA KIT (5769-SS1)                 1
    2591  WEBSPHERE APPL SERVER(5769SS1)      1
    2603  CL ACC EXPRESS WIN (5769SS1)        1
    2612  APPL DICT SRVS (5769-WDS)           1
    2924  ENGLISH U/L SBCS PRIMARY            1
    3410  CD-ROM MEDIA                        1
    3455  SMS-B S/N ASSIGN, SW PRELOAD        1
    3540  VERSION 4 RELEASE 4.0               1
    5000  SW PRELOAD                          1
    7001  PDF CD-ROM                          1
    7002  PROG LANG & DEV TOOLS MANUAL        1
    8136  OS/400 BACKUP & RECOVERY            1
    9001  ASSET REGISTRATION                  1
```

Note 1 - The * is often used to help identify specific selections made during configuration, while the remaining feature codes without asterisks are usually autoselected/default selections generated by eConfig.

U1 (delta) -

(partial list)

Customer Requested Arrival Date: 2001/06/30

Hardware MESs
```
9406-720  AS/400e Server                               1
Additions
    0003  Notify CSO after Install                     1
    2924  English                                      1
*   3002  128MB Main Storage                           2
*   5027  Software Version V4R5                         1
Removals
    5000  Software Preload                            -1
    5026  Software Version V4R4                        -1
```

Software New Orders
5769-WDS IBM WebSphere Development Studio for iSeries

2042 Upg P10 BOTC WebSph Dev (5769-RG1/CB1CX2/CX5/PW1/CL3)

CB (change base modifications) -

Base System Modification Summary
+---+
5755-AS5 Feature Changes Basic SIPO
   1-2512 Removed ILE RPG/400 (RG1)
   1-2513 Removed ILE COBOL/400 (CB1)
   1-2526 Removed Application Development ToolSet/400 (PW1)
   1-2527 Removed ILE C/400 (CX2)
   1-2612 Removed Application Dictionary Services/400 (PW1..

5769-CB1 Removed IBM Integrated Language Environment COBOL..
   1-0410 Removed P10 Basic OTC ILE COBOL
   1-9001 Removed Basic Asset Registration

5769-CX2 Removed IBM Integrated Language Environment C for..
   1-0530 Removed P10 Basic OTC ILE C
   1-9001 Removed Basic Asset Registration

5769-PW1 Removed IBM Application Development ToolSet for A..
   1-0896 Removed P10 Basic OTC ADTS
   1-0956 Removed P10 Basic OTC ADS
   1-9001 Removed Basic Asset Registration

5769-RG1 Removed IBM Integrated Language Environment RPG f..
   1-0986 Removed P10 Basic OTC ILE RPG
   1-9001 Removed Basic Asset Registration

FINDINGS:

Upgrade to WDS was removed from the output of U2 as expected.

****

Rule #4

If an MTM is deleted during upgrade (U1), remove that MTM in
upgrade (U2) irrespective of any explicit edits on it during
the change base (B2).

EXPECTATIONS:

Installed AS/400 System with existing 3570-C11 and 3575-L06 tape
MTMs are removed during U1. Even though user modifies features
of these tapes during ChangeBase, both tape MTMs are still
removed during U2.

SCENARIO:

B1 - Installed Model 730 AS/400 System with existing 3570-C11 &
3575-L06 tapes

U1 (delta) - Includes the following HW upgrades -
            (partial list)

Hardware Devices Removed
* 3570-C11 MAGSTAR MAGNETIC TAPE SUBS   -1
Removals
    2895 INTERPOSER FOR AS/400   -1
    5225 SCSI CABLE, 25 METER   -1
    8750 1 CLEANING CARTRIDGE   -5
    9007 C-FORMAT XL CARTRIDGE SUPPORT   -1
    9400 ATTACHED TO AS/400   -1
          Serial: 000000SN3

* 3575-L06 MAGSTAR MAGNETIC TAPE SUBS.   -1
Removals
    1401 MULTI-PATH FEATURE   -1
    2895 INTERPOSER, AS/400   -1
    9007 C-FORMAT XL CARTRIDGE SUPPORT   -1
    9400 ATTACHED TO AS/400 SYSTEM   -1
    9907 4.3M (14FT) POWER CORD,125V   -1
          Serial: 000000SN4

Hardware MESs
9406-730 AS/400E SERVER   1
Feature conversions
    1506 INTERACTIVE CARD   -1
*   1509 INTERACTIVE CARD   1
Additions
    0003 NOTIFY CSO AFTER INSTALL   1
    2924 ENGLISH   1
*   3179 256MB MAIN STORAGE   2
Removals
    0084 3570-C1X RACK MOUNT ATTCH   -1
          Serial: 000000SN1

CB (change base modifications) -

Base System Modification Summary
+---+

3570-C11 Feature Changes 3570-C11 IBM Magstar MP rack-moun..
   2-8750 Removed 1-Cleaning Cassette

3575-L06 Feature Changes 3575-L06 Magstar MP 60-cartridge ..
   1-9907 Removed 4.3m 125V Power Cord - U.S.
   1-5218 Added 18m SCSI-2 Cable
   1-9909 Added 4.3m 250V Watertight Power Cord - U.S.

FINDINGS:

Both the C11 and L06 tapes were again removed on the
output from U2. However, the base and removal features
did reflect the ChangeBase features, so that the correct
features were removed.

****

Rule #5

5. If a new MTM/feature is added during change base (B2),
keep the same new MTM/feature during the "application" of
changes made in the upgrade (U2).

EXPECTATIONS:

 >> Note <<
    This rule is one of the simplest form/example of how
    ChangeBase works.

Non-existing feature codes (added during ChangeBase) are
correctly reflected as being installed on U2 output.

SCENARIO:

B1 - (partial list)

9406-830	ISERIES 400	1	122,000.00
816.00	Mth		
0041	DEVICE PARITY PROTECTION-ALL	1	N/C
0367	OPERATIONS CONSOLE PCI CABLE	1	125.00
1454	200V 12A 14-FT TL LINE CORD	1	N/C
1531	INTERACTIVE CAPACITY CARD	1	N/C
2400	MODEL 830 2-WAY PROCESSOR	1	30,000.00
2924	ENGLISH	1	N/C
3062	128MB MAIN STORAGE	8	10,240.00
4318	17.54GB 10K RPM DISK UNIT	4	10,080.00
4425	CD-ROM	1	415.00
4482	4GB 1/4-INCH CARTRIDGE TAPE	1	1,300.00
4745	PCI WAN IOA	1	425.00
5000	SW PRELOAD REQUIRED	1	N/C
5027	SOFTWARE VERSION V4R5	1	N/C
5506	ALT IPL SPECIFY FOR QIC-4000	1	N/C

```
     5544   SYS CONSOLE ON OP CONSOLE              1                N/C
     9074   BASE I/O ENCLOSURE                     1                N/C
     9732   BASE HSL PORTS - 8 COPPER              1                N/C
     9748   BASE PCI DISK UNIT CTLR                1                N/C
     9771   BASE PCI 2-LINE WAN W/MODEM            1                N/C
     9943   BASE PCI IOP                           1                N/C



   U1 (delta) - Includes the following HW upgrades -
              (partial list)

   Customer Requested Arrival Date: 2001/06/30
   9406-830  ISERIES 400                                             1
   Feature conversions
   *    2400   MODEL 830 2-WAY PROCESSOR                            -1
        2403   MODEL 830 8-WAY PROCESSOR                             1
   Additions
        0003   NOTIFY CSO AFTER INSTALL                              1
        0829   #4318 Load Source Specify                             1
        1416   200V 14-FT LOCKING LINE CORD                          1
        1460   3M COPPER HSL CABLE                                   1
        1461   6M COPPER HSL CABLE                                   1
        1464   6M SPCN CABLE                                         1
   *    2629   LAN/WAN/WORKSTATION IOP                               3
        2881   MAIN STORAGE EXPANSION                                1
        2924   ENGLISH                                               1
   *    3062   128MB MAIN STORAGE                                    8
        3067   1024MB Main Store                                     8
        5077   MIGRATION TOWER II                                    1
        9733   BASE HSL PORTS - 8 COPPER                             1
   Removals
        0041   DEVICE PARITY PROTECTION-ALL                         -1
        5000   SW PRELOAD REQUIRED                                  -1
        9732   BASE HSL PORTS - 8 COPPER                            -1
               Serial: 000000SN1

   CB (change base modifications) -

   Base System Modification Summary
   +----------------------------------------------------+
   simply added five 2629s to base 830
```

FINDINGS:
After ChangeBase, the output from U2 correctly reflected an
installed quantity of 2629s on the base and on the Proposed 830.

****

Rule #6

If an MTM/feature is deleted during change base (B2), remove
the same MTM/feature in upgrade (U2).

EXPECTATIONS:

 >> Note <<
    This rule is one of the simplest form/example of how
    ChangeBase works.

Existing feature codes (removed during ChangeBase) are
correctly reflected as not being installed on U2 output.

SCENARIO:

B1 - (hardware only)

```
9406-830  ISERIES 400                          1
    0041  DEVICE PARITY PROTECTION-ALL         1
    0367  OPERATIONS CONSOLE PCI CABLE         1
    1454  200V 12A 14-FT TL LINE CORD          1
    1531  INTERACTIVE CAPACITY CARD            1
    2400  MODEL 830 2-WAY PROCESSOR            1
    2924  ENGLISH                              1
    3062  128MB MAIN STORAGE                   8
    4318  17.54GB 10K RPM DISK UNIT            4
    4425  CD-ROM                               1
    4482  4GB 1/4-INCH CARTRIDGE TAPE          1
    4745  PCI WAN IOA                          1
    5000  SW PRELOAD REQUIRED                  1
    5027  SOFTWARE VERSION V4R5                1
    5506  ALT IPL SPECIFY FOR QIC-4000         1
    5544  SYS CONSOLE ON OP CONSOLE            1
    9074  BASE I/O ENCLOSURE                   1
    9732  BASE HSL PORTS - 8 COPPER            1
    9748  BASE PCI DISK UNIT CTLR              1
    9771  BASE PCI 2-LINE WAN W/MODEM          1
    9943  BASE PCI IOP                         1

* 7852-40Z  AS/400 DATA/FAX MODEM V.34          1
*     5000  AS/400 TSP SPECIFY                  1

9910-B42  BEST AXXIUM PRO 3KVA                 1
```

U1 (delta) - Includes the following HW upgrades -
             (partial list)

Hardware MESs
*Customer Requested Arrival Date: 2001/06/30

```
9406-830  ISERIES 400                                              1
Feature conversions
    2400  MODEL 830 2-WAY PROCESSOR                               -1
*   2402  MODEL 830 4-WAY PROCESSOR                                1
Additions
    0003  NOTIFY CSO AFTER INSTALL                                 1
    0829  #4318 Load Source Specify                                1
    1460  3M COPPER HSL CABLE                                      1
    2924  ENGLISH                                                  1
    9733  BASE HSL PORTS - 8 COPPER                                1
Removals
    5000  SW PRELOAD REQUIRED                                     -1
    9732  BASE HSL PORTS - 8 COPPER


CB (change base modifications) -
Base System Modification Summary
+--------------------------------------------------+
7852-40Z        Removed
7852-40Z.5000 Removed
```

FINDINGS:
After ChangeBase, the output from U2 correctly reflected an installed hardware system that DID NOT include the 7852, which was removed during ChangeBase.

****

Rule #7

7. If the user makes some explicit selections during upgrade (U1), use these changes during upgrade (U2) irrespective of any edits done during change base (B2). Violation of configuration rules will be identified during the Start Upgrade or the Final Validation process of U2 and the user may have to manually resolve these errors (see 12 for message information).

EXPECTATIONS:
User selects a specific quantity of 4318s and 4430s for the proposed system during U1. Regardless of changes to the installed quantities of 4318 & 4430, the proposed system for U2 will have the same specific quantity of 4318s and 4430s for the proposed system at the end of U2. In otherwords, expect the same quantity for these features on the proposed system on U1 and U2. However, it is expected that there will be major differences in the delta (MES) section for U1 and U2, if ChangeBase modifies the installed quantities for these features.

SCENARIO:

B1 -

```
9406-830   ISERIES 400                                        1
     0041  DEVICE PARITY PROTECTION-ALL                       1
     0088  OPTICONNECT CLUSTER SPCFY                           1
     0330  V.24/EIA232 20-FT CABLE                             1
     0367  OPERATIONS CONSOLE PCI CABLE                        1
     1454  200V 12A 14-FT TL LINE CORD                         1
     1531  INTERACTIVE CAPACITY CARD                           1
     2400  MODEL 830 2-WAY PROCESSOR                           1
     2666  HIGH SPEED COMM ADAPTER                             1
     2699  TWO-LINE WAN IOA                                    1
     2749  PCI ULTRA MAG MEDIA CTLR                            1
     2843  PCI IOP                                             1
     2924  ENGLISH                                             1
     3062  128MB MAIN STORAGE                                  8
*    4318  17.54GB 10K RPM DISK UNIT                          12
     4425  CD-ROM                                              2
*    4430  DVD-RAM                                             3
     4482  4GB 1/4-INCH CARTRIDGE TAPE                         1
     4745  PCI WAN IOA                                         1
     4746  PCI TWINAXIAL WORKSTN IOA                           1
     4748  PCI RAID DISK UNIT CTLR                             4
     4801  PCI CRYPTO COPROCESSOR                              1
     5000  SW PRELOAD REQUIRED                                 1
     5027  SOFTWARE VERSION V4R5                               1
     5074  PCI EXPANSION TOWER                                 4
     5077  MIGRATION TOWER II                                  1
     5506  ALT IPL SPECIFY FOR QIC-4000                        1
     5544  SYS CONSOLE ON OP CONSOLE                           1
     9074  BASE I/O ENCLOSURE                                  1
     9691  BASE BUS ADAPTER                                    4
     9732  BASE HSL PORTS - 8 COPPER                           1
     9748  BASE PCI DISK UNIT CTLR                             1
     9771  BASE PCI 2-LINE WAN W/MODEM                         1
     9885  X.21 CCITT INTRF-20FT/6M                            1
     9943  BASE PCI IOP                                        5
```

U1 (partial list) -

```
  (U1 delta)
Hardware MESs
9406-830   ISERIES 400                                        1
Additions
     0003  NOTIFY CSO AFTER INSTALL                            1
     0046  OPTICONNECTED  SYSTEM                               1
     0829  #4318 Load Source Specify                           1
     1416  200V 14-FT LOCKING LINE CORD                        1
     1454  200V 12A 14-FT TL LINE CORD                         4
     1460  3M COPPER HSL CABLE                                 1
```

```
       1461   6M COPPER HSL CABLE                                      4
       1462   15M COPPER HSL CABLE                                     1
       1464   6M SPCN CABLE                                            4
       1465   15M SPCN CABLE                                           1
       2688   OPTICAL LINK PROC(1063MBPS)                              1
       2924   ENGLISH                                                  1
Removals
*      4318   17.54GB 10K RPM DISK UNIT (reduce 12 down to 6)   -6
*      4430   DVD-RAM                        (reduce 3 down to 1)   -2
       5000   SW PRELOAD REQUIRED                                     -1


  - - -


Proposed Hardware
9406-830   ISERIES 400                                               1
       .
       .
       .
       2699   TWO-LINE WAN IOA                                        1
       2749   PCI ULTRA MAG MEDIA CTLR                                1
       2843   PCI IOP                                                 1
       2924   ENGLISH                                                 2
       3062   128MB MAIN STORAGE                                      8
*      4318   17.54GB 10K RPM DISK UNIT                               6
       4425   CD-ROM                                                  2
*      4430   DVD-RAM                                                 1
       4482   4GB 1/4-INCH CARTRIDGE TAPE                             1
       4745   PCI WAN IOA                                             1
       .
       .
       .


CB (change base modifications) -

Base System Modification Summary
+---------------------------------------------------+
4318 Removed Qty 8 of 12 (leaving 4 on base)
4430 Removed Qty 3 of 3  (leaving 0 on base)


U2 (partial list) -

  (U2 delta)
Hardware MESs
9406-830   ISERIES 400                                               1
Additions
       0003   NOTIFY CSO AFTER INSTALL                                1
       0046   OPTICONNECTED  SYSTEM                                   1
       0829   #4318 Load Source Specify                               1
```

```
       1416   200V 14-FT LOCKING LINE CORD                        1
       1454   200V 12A 14-FT TL LINE CORD                         4
       1460   3M COPPER HSL CABLE                                 1
       1461   6M COPPER HSL CABLE                                 4
       1462   15M COPPER HSL CABLE                                1
       1464   6M SPCN CABLE                                       4
       1465   15M SPCN CABLE                                      1
       2688   OPTICAL LINK PROC(1063MBPS)                         1
       2924   ENGLISH                                             1
*      4318   17.54GB 10K RPM DISK UNIT                           1
*      4430   DVD-RAM                                             1
Removals
       5000   SW PRELOAD REQUIRED                                -1


   -  -  -


Proposed Hardware
9406-830   ISERIES 400                                            1

       .
       .
       .
       2699   TWO-LINE WAN IOA                                    1
       2749   PCI ULTRA MAG MEDIA CTLR                            1
       2843   PCI IOP                                             1
       2924   ENGLISH                                             2
       3062   128MB MAIN STORAGE                                  8
*      4318   17.54GB 10K RPM DISK UNIT                           6
       4425   CD-ROM                                              2
*      4430   DVD-RAM                                             1
       4482   4GB 1/4-INCH CARTRIDGE TAPE                         1
       4745   PCI WAN IOA                                         1
       .
       .
       .
```

FINDINGS:
Notice that the Proposed Hardware for U1 and U2 contain the
same exact quantities for features 4318 & 4430...the specific
quantities selected by the user during the U1 upgrade selections.
The proposed U2 quantities are the same even after ChangeBase.
However, the U1 and U2 deltas are much different for these two
features as a result of modifications to the installed quantities
for these two features during ChangeBase. This demonstrates that
rule 7 is working correctly.

****

Rule #8

Defaults and Autoselections need to be re-validated. The system
should be revalidated after the change base (B2) is
altered/replaced.

EXPECTATIONS:
Specific U1 upgrade selections require additional features
already on
the installed system. If these installed features are removed
during
ChangeBase, then U2 must be modified to include an addition for
these
required features on the order for U2.

SCENARIO:

B1 -


```
Hardware Base Starting-point
9406-830  ISERIES 400                           1
    0041  DEVICE PARITY PROTECTION-ALL          1
    0367  OPERATIONS CONSOLE PCI CABLE          1
    1400  200V 6-FT LINE CORD                   1
    1454  200V 12A 14-FT TL LINE CORD           1
    1531  INTERACTIVE CAPACITY CARD             1
    2400  MODEL 830 2-WAY PROCESSOR             1
    2688  OPTICAL LINK PROC(1063MBPS)           1
*   2838  PCI 100/10MBPS ETHERNET IOA           1
    2924  ENGLISH                               1
    3062  128MB MAIN STORAGE                    8
    4318  17.54GB 10K RPM DISK UNIT             4
    4425  CD-ROM                                1
    4482  4GB 1/4-INCH CARTRIDGE TAPE           1
    4745  PCI WAN IOA                           1
    5000  SW PRELOAD REQUIRED                   1
    5027  SOFTWARE VERSION V4R5                 1
    5065  STORAGE/PCI EXPANSION TOWER           1
    5077  MIGRATION TOWER II                    1
    5506  ALT IPL SPECIFY FOR QIC-4000          1
    5544  SYS CONSOLE ON OP CONSOLE             1
    9074  BASE I/O ENCLOSURE                    1
    9732  BASE HSL PORTS - 8 COPPER             1
    9748  BASE PCI DISK UNIT CTLR               1
    9771  BASE PCI 2-LINE WAN W/MODEM           1
    9943  BASE PCI IOP                          1
7852-40Z  AS/400 DATA/FAX MODEM V.34            1
    5000  AS/400 TSP SPECIFY                    1
9910-B42  BEST AXXIUM PRO 3KVA                  1
```


U1 (delta) - Includes the following HW upgrades -

(partial list)

* Customer Requested Arrival Date: 2001/06/30
Hardware MESs
9406-830 ISERIES 400   1
Additions
     0003 NOTIFY CSO AFTER INSTALL   1
   N/C
*   0222 100/10MBPS ETHERNET SPECIFY   1
   N/C
     0829 #4318 Load Source Specify   1
     1416 200V 14-FT LOCKING LINE CORD   1
   N/C
     1460 3M COPPER HSL CABLE   1
450.00
     1461 6M COPPER HSL CABLE   1
550.00
     1464 6M SPCN CABLE   1
   N/C
     2748 PCI RAID DISK UNIT CTLR   1
6000.00
     2861 32MB IOP MEMORY   1
125.00
     2924 ENGLISH   1
   N/C
*   4430 DVD-RAM   1
*   5538 Alt IPL spec for DVD-RAM   1
*   6618 INTEGRATED NETFINITY SERVER   1
2000.00
Removals
     5000 SW PRELOAD REQUIRED   -1
     5506 ALT IPL SPECIFY FOR QIC-4000   -1
           Serial: 000000SN1   Total
9125.00

Software MESs
5755-AS5 V4 SYSTEM PROGRAM ORDER   1
Additions
     2644 INT FSIOP (5769-SS1)   1   N/C
     3550 SHIP VERSION 4 RELEASE 5   1   N/C
Removals
     0010 P20 PG / MFG POE   -1
     3455 SMS-B S/N ASSIGN, SW PRELOAD   -1
     5000 SW PRELOAD   -1

CB (change base modifications) -

Base System Modification Summary
+--+

Remove only 2838 from base 830

<u>FINDINGS:</u>
The existing, installed 2838 was not required for the installed
B1 system (extra hardware). However, the U1 upgrade selections
made by the user did require 2838. Since the 2838 already
existed, no order (delta) was added for 2838 during U1.

However, after removal of this feature during ChangeBase,
re-evaluation of required features generated a charged addition
of 2838 to the output for U2.

****
<u>Rule #9</u>

If the user make changes in the change base (B2) that invalidate
one of the upgrade items in upgrade (U1), that upgrade item will
go back to the default value for upgrade (U2). A message will
be displayed to the user (see #12)

Pending...

Trying to separate existing testcases from rule 3, rule 8, and
rule 12.

****

<u>Rule #10</u>

If a new feature is added during the upgrade (U1), apply the
same quantity of this feature selected by the user to the
upgrade (U2) even if that feature is added to the change base
(B2).
The key is that this is an explicit selection. If the new
feature
is no longer valid due to changes in the base, the feature
selection should go back to the default.

<u>EXPECTATIONS:</u>

Proposed quantities on the output of U2 and U1 should exactly
match
the specific quantities selected by the user during U1, even
after
modifications to existing installed quantities in ChangeBase.

<u>SCENARIO:</u>
B1 -

```
Hardware Base Starting-point
9406-830  ISERIES 400                          1
    0041  DEVICE PARITY PROTECTION-ALL         1
    0367  OPERATIONS CONSOLE PCI CABLE         1
    1454  200V 12A 14-FT TL LINE CORD          1
    1531  INTERACTIVE CAPACITY CARD            1
    2400  MODEL 830 2-WAY PROCESSOR            1
    2924  ENGLISH                              1
    3062  128MB MAIN STORAGE                   8
*   4318  17.54GB 10K RPM DISK UNIT            4
    4425  CD-ROM                               1
    4482  4GB 1/4-INCH CARTRIDGE TAPE          1
    4745  PCI WAN IOA                          1
    5000  SW PRELOAD REQUIRED                  1
    5027  SOFTWARE VERSION V4R5                1
    .
    .
    .


U1 (delta) - Includes the following HW upgrades -
          (partial list)


Hardware MESs
9406-830  ISERIES 400                                        1
Additions
    0002  CUSTOMER INSTALL MES                               1
    0829  #4318 Load Source Specify                          1
    1460  3M COPPER HSL CABLE                                1
    2924  ENGLISH                                            1
*   4317  8.58GB 10K RPM DISK UNIT                           4
*   4318  17.54GB 10K RPM DISK UNIT                          4
Removals
    5000  SW PRELOAD REQUIRED                               -1


U1 Proposed Hardware -

9406-830  ISERIES 400                                        1
    0002  CUSTOMER INSTALL MES                               1
    0041  DEVICE PARITY PROTECTION-ALL                       1
    0367  OPERATIONS CONSOLE PCI CABLE                       1
    0829  #4318 Load Source Specify                          1
    1454  200V 12A 14-FT TL LINE CORD                        1
    1460  3M COPPER HSL CABLE                                1
    1531  INTERACTIVE CAPACITY CARD                          1
    2400  MODEL 830 2-WAY PROCESSOR                          1
    2924  ENGLISH                                            2
    3062  128MB MAIN STORAGE                                 8
*   4317  8.58GB 10K RPM DISK UNIT                           4
*   4318  17.54GB 10K RPM DISK UNIT                          8
```

```
      4425   CD-ROM                                              1
      4482   4GB 1/4-INCH CARTRIDGE TAPE                         1
      4745   PCI WAN IOA                                         1
      5027   SOFTWARE VERSION V4R5                               1
      5506   ALT IPL SPECIFY FOR QIC-4000                        1
      5544   SYS CONSOLE ON OP CONSOLE                           1
      9074   BASE I/O ENCLOSURE                                  1
      9732   BASE HSL PORTS - 8 COPPER                           1
      9748   BASE PCI DISK UNIT CTLR                             1
      9771   BASE PCI 2-LINE WAN W/MODEM                         1
      9943   BASE PCI IOP                                        1


CB (change base modifications) -


Base System Modification Summary
+-----------------------------------------------------+
add qty 2 4318 to base (total now 6)
add qty 2 4317 to base (none installed before)
keep 4318 as Load Source

U2 (delta) - Includes the following HW upgrades -
            (partial list)


Hardware MESs
9406-830  ISERIES 400                                      1
Additions
      0002   CUSTOMER INSTALL MES                               1
      0829   #4318 Load Source Specify                          1
      1460   3M COPPER HSL CABLE                                1
      2924   ENGLISH                                            1
*     4317   8.58GB 10K RPM DISK UNIT                           2
*     4318   17.54GB 10K RPM DISK UNIT                          2
Removals
      5000   SW PRELOAD REQUIRED                               -1

U2 Proposed Hardware -

9406-830  ISERIES 400                                      1
      0002   CUSTOMER INSTALL MES                               1
      0041   DEVICE PARITY PROTECTION-ALL                       1
      0367   OPERATIONS CONSOLE PCI CABLE                       1
      0829   #4318 Load Source Specify                          1
      1454   200V 12A 14-FT TL LINE CORD                        1
      1460   3M COPPER HSL CABLE                                1
      1531   INTERACTIVE CAPACITY CARD                          1
      2400   MODEL 830 2-WAY PROCESSOR                          1
      2924   ENGLISH                                            2
      3062   128MB MAIN STORAGE                                 8
*     4317   8.58GB 10K RPM DISK UNIT                           4
*     4318   17.54GB 10K RPM DISK UNIT                          8
```

```
   4425   CD-ROM                                                    1
   4482   4GB 1/4-INCH CARTRIDGE TAPE                               1
   4745   PCI WAN IOA                                               1
```

FINDINGS:
Again, like rule 7, the proposed quantities for 4317 & 4318
are the same for U1 and U2. However, because of the
modifications
made during ChangeBase the delta for U2 is very different from
U1.

```
***********************************************
```

Rule # 11

If a feature is deleted during the upgrade (U1), apply the
same quantity of this feature to the upgrade (U2) even if a
quantity of that feature is deleted from the change base (B2).
The key is that this is an explicit selection. If the explicit
selection is no longer valid - ie: the new feature is required
due to changes in the base - the feature selection should go
back to the default.

EXPECTATIONS:
Proposed quantities on the output of U2 and U1 should exactly
match the specific quantities selected by the user during U1,
even after modifications to existing installed quantities in
ChangeBase.

SCENARIO:
B1 -

Hardware Base Starting-point
basic 9406-830 with :
```
3570-C11  MAGSTAR MAGNETIC TAPE SUBS                               1
    5212   12 METER SCSI CABLE                                     1
    8750   1 CLEANING CARTRIDGE                                    5
    9007   C-FORMAT XL CARTRIDGE SUPPORT                           1
    9400   ATTACHED TO AS/400                                      1
```

U1 (delta) - Includes the following HW upgrades -
Hardware MESs
```
3570-C11  MAGSTAR MAGNETIC TAPE SUBS                               1
```
Removals
```
    8750   1 CLEANING CARTRIDGE                                   -3
```

U1 Proposed Hardware -
```
3570-C11  MAGSTAR MAGNETIC TAPE SUBS                               1
```

```
     5212   12 METER SCSI CABLE                                  1
     8750   1 CLEANING CARTRIDGE                                 2
     9007   C-FORMAT XL CARTRIDGE SUPPORT                        1
     9400   ATTACHED TO AS/400                                   1
```

```
CB (change base modifications) -
Base System Modification Summary
+----------------------------------------------------+
3570-C11 ChangeBase modifications:
Removed Qty of 2 from 5 leaving 3 remaining
installed 8750 1-Cleaning Cassettes

U2 (delta) - Includes the following HW upgrades -
Hardware MESs
3570-C11   MAGSTAR MAGNETIC TAPE SUBS                        1
Removals
     8750   1 CLEANING CARTRIDGE                            -1

U2 Proposed Hardware -
3570-C11   MAGSTAR MAGNETIC TAPE SUBS                        1
     5212   12 METER SCSI CABLE                              1
     8750   1 CLEANING CARTRIDGE                             2
     9007   C-FORMAT XL CARTRIDGE SUPPORT                    1
     9400   ATTACHED TO AS/400                               1
```

FINDINGS:
Once again, like rule 7 and 10, the U2 Proposed quantities
for feature 8750 are the same as U1, which is the quantity
the user specifically selected. The delta for U2 is now
different from the U1 delta, because of the ChangeBase
modifications to the quantity of installed 8750s.

****

Rule #12

Anytime U1 can not be restored completely, in other words
some MTM or feature in no longer valid and has to be removed
or changed, there should be a message in the messages tab or
as POP-up messages during the U2 Start Upgrade process.

EXPECTATIONS:

Some upgrades are no longer valid after modifications to
the base. A message should be generated to inform the user
that the upgrade was not valid after ChangeBase.

SCENARIO:

```
U1 (delta) - Includes the following HW upgrades -
            (partial list)


Hardware MESs
9404-720  AS/400E SERVER                     1
Feature conversions
    1501  INTERACTIVE CARD                  -1
*   1504  INTERACTIVE CARD                   1
145.00  Mth
    2062  MODEL 720 PROCESSOR (256MB)      -1
*   2063  MOD 720 2-WAY PROC (256MB)        1
255.00  Mth
Additions
    0003  NOTIFY CSO AFTER INSTALL          1        N/C
    0008  ULTRA SCSI ATTACH 7208-342        1        N/C
    2924  ENGLISH                           1        N/C
*   3004  256MB MAIN STORAGE                4   10240.00
    5027  SOFTWARE VERSION V4R5             1        N/C
Removals
    5026  SOFTWARE VERSION V4R4            -1


CB (change base modifications) -

Base System Modification Summary
+----------------------------------------------------+
9404-720: change installed ICC card from 1501 to 1500
```

FINDINGS:

There is no way to upgrade to 1504 from 1500. Thus, after ChangeBase, the U1 upgrade is no longer valid... with a Message generated stating:

> "User selections from the previous
> upgrade could not be applied over
> changed base."

Tip/Technique 25: *Serial Number on Version 4 SIPO (5755-ASx) and Version 5 5722-SS1.*

Here are some notes regarding serial number handling in the configurator.

1. The serial# on the SIPO and SS1 represent the hardware 940x system serial#

2. Serial# is normally 7 digits in length with the position 1 and 2 - '10'. Eg. 10-27G6A

3. When manually entering a serial number or updating an existing serial in base edit on 5755-ASx (V4) or 5722-SS1 (V5) the value is represented by what is entered in the 'Quantity' field for the feature (0001 - 0007). The 'Available' products frame can be used to select these features.

4. Values:

   a. 1-9 = 1, 2, 3, 4, 5, 6, 7, 8, 9 (the actual number)

   b. 10 = '0'

   c. 11-36 = The letter A - Z in the alphabet

Tip/Technique 26: _Special consideration for upgrading software and replacing hardware(NEWSYS)._
If you are performing a NEWSYS upgrade and have no 9406 hardware orders that result in shipment of hardware, then all the resulting hardware feature adds and removals are created as RPO MES transactions and are reflected as such in the output report (Proposed tab). This is true even if there is software on order and/or hardware such as specify codes.

Tip/Technique 27: _Special behaviors when doing an 'Open' of a previously saved portfolio._
The e-config application will restore a previously saved portfolio when a user does an 'open' of an existing portfolio. How the application opens the portfolio will be based on a number of factors.
Prior to 10/2001
If a progress indicator window appears indicating the restore is being done using a .CFR file then any auto-configured items would no longer be reflected as auto-configured on the 'System Options' and 'Basic Options' pages. The portfolio may have been saved when certain features had been added to the configuration. These features were reflected in the 'Added' column on these pages. After the restore or 'Open' of the portfolio these features will be reflected in the 'Selected' column as explicit selections.
After 10/2001
After the restore or 'Open' of the portfolio these features will be reflected in the 'Added' column as auto-configured selections.

Tip/Technique 28: _High Workload IOP rules._
The iSeries configurator does enforce high workload IOP rules. They are enforced as 'hard' errors and not 'soft' errors that the user can bypass. An example is, 5 high-workload IOPs allowed per SPD bus.

Tip/Technique 29: _General LPAR processing_
The purpose of this item is to provide some introductory information regarding the current LPAR configuration support provided by the configurator. It is not intended to provide detailed information and instructions for configuring an iSeries LPAR customer solution. The configurator functional support for LPAR configuration will be enhanced over time.

The configuration is identified as LPAR by using the Basic Options --> Logical Partitions control. A number of 'FATAL' (red) messages may be sent during configuration giving information on additional hardware required.
Sample Scenario: Configure a default 9406-830 with (2) logical partitions (minimum = 2)
There are several key aspects of hardware the user needs to be aware of and address:
1- A console selection
2- IOPs to support the console selected
3- Expansion towers
4- Load source IOP
5- Disk and disk unit protection selected

This default (configurator) 9406-830 will require the user to select the following at a minimum:
1- (2) console controllers. In this example select Twinaxial. System Options --> WSC/Console --> Workstation Controllers --> Select Qty(2) '4746 PCI Twinaxial Workstation IOA'
2- Select a console. System Options --> WSC/Console --> Primary System Console --> Select '5540 Twinaxial System Console'

3- Select an additional expansion tower for the load source IOP.
System Options --> Expansions --> Towers, Expansion Units --> Select Qty(1)
'5101 30 Disk Expansion feature'. Alternatively a more costly '5074 PCI
Expansion Tower' may also be selected.
4- Select an additional disk IOP. System Options --> IOPs--> IOPs --> Select
Qty(2)'PCI RAID Disk Unit Controller (4748/9748)'
5- Select appropriate number of disk units for the disk protection selected.
In this case, 0041 RAID is defaulted along with (4) 4317 8.58GB PCI disk
units. Additional disk units should be selected as appropriate.

Tip/Technique 30: *Linux and LPAR.*

This tip is intended to provide some additional information regarding
Linux/LPAR configurations. e-config allows the selection of 060x features on
the user interface regardless of whether there are empty slots available
because at the time selections are being made, e-config does not know how many
slots will be empty. That 'calculation' happens during the actual
configuration step in e-config which occurs only after all user selections
have been made.

There are two pieces of the Linux implementation in e-config:

   The ability to select a quantity of feature #0142.
       Quantities of OS/400 and Linux partitions are checked to make certain
       that an OS400 partition is always ordered if a Linux partition is
       selected, and that the total quantity of partitions does not exceed 4
       times the n in n-way.
   Selecting #0142 will allow the #060x features to be selectable on e-config
   panels (user interface).
       e-config will validate potential placement of all direct attach IOAs.
       This support will be similar to the existing support for orderable IOPs
       and IOAs through e-config. This means that if additional towers are
       required to support the selected direct attach IOAs (and the other cards
       either selected or auto-configured to satisfy other requirements), they
       will be added automatically by e-config. The user is always able to
       choose additional towers as desired, subject to min/max validation.
       e-config will consider direct attach disk unit IOAs to be available to
       drive disk units as required. When additional disk unit IOAs are
       required to drive selected disk units, e-config will auto-configure
       additional non-direct attach disk unit IOA features to satisfy these
       requirements as it always has.
       Max partition quantity checking will be enhanced to account for the
       dedicated processors required for guest partitions on I-Star processors.

The manufacturing configurator will place as many of the direct attach disk
unit IOAs as required to assign each disk unit to a disk unit IOA. The
placement of these IOAs will not necessarily match the placement that e-config
has shown in the system diagram. The manufacturing configurator will not
place the direct attach LAN IOAs ... these will be shipped not installed in
the system.

Tip/Technique 31: *Bus-Level Disk Mirroring*

Feature #0043 identifies a configuration as 'bus-level' mirrored. From an
e-config perspective, this means 'tower level' mirroring.
Though the mirroring software on an iSeries system will try to mirror across
HSL loops, etc., the configurator does not explicitly determine which towers
will be on each HSL loop, and therefore, cannot take the loops into account.
This is the main reason that the #0043 (bus level) will effectively mirror at
the tower level across the whole system.

An example is configuring a default system Model 830 with RAID, #0041. Then change #0041 --> #0043. Note an additional tower #5074 and other additional hardware is added to achieve 'tower/bus level' mirroring.

Tip/Technique 32: *V5R1 Software on Model 150*
V5R1 software support on Model 150 (Not planned to be added to the configurator)Support of the iSeries V5R1 software on the hardware Model 150 is not available in e-config. The workaround to order V5R1 software for a Model 150, use the iSeries "software only" version of e-config and select Model 400 for the system model on the Software Platform panel. This will allow selection of V5R1 software at the appropriate (P05) processor group level.
In the U.S., the Model 150 system serial number will need to be entered to enable shipment of keys for the V5R1 software.

Tip/Technique 33: *Software Expedite charges*
Non-stacked or Non-SIPO (5755-ASx) products each receive own expedite charge. Stacked or SIPO (5755-ASx) products are covered with 1 expedite charge on (5755-ASx)
At V5R1 must use #3446 feature on EVERY software product (each will receive charge).

Tip/Technique 34: Changing Primary Software Language during an MES at V5R1
With SIPO elimination, no easy way without reshipping all 5722-xxx and/or 5769-xxx products
Correct MES configuration/order procedure:
- Configure/Order desired language as a Secondary Language
- Use Operating System procedure to change primary language using secondary media.
Once the shipment of the software is received from IBM, the user needs to refer to the Software Installation publication, Chapter 8, 'Changing Your Primary Language' to actually accomplish the change in primary language.

Tip/Technique 35: No software discontinuance orders at V5R1
IPLA software was introduced with V4 and continued with V5. With IPLA the customer is now responsible for maintaining software install records and no longer IBM. There are no discontinue orders for 5769-xxx or 5722-xxx products.

Tip/Technique 36: Customer Installed and CE installed features
The following description explains the use of feature code #0002, Customer installed MES, and #0003, CE installed MES, in e-config. These features are NOT user selectable but are placed on an upgrade order automatically by e-config based on the following rules.

#0002 Customer Install MES
This feature is used to indicate that that customer involvement is required to install this MES on the ordered system: This feature drives translated customer installation instructions, MES package labeling, and indicates that an IBM CE should not automatically be dispatched to install the MES. e-config places this feature code on the order if all of the following are true:
1.All of the features on the MES order (Adds or Removes) are listed for this model as a Customer Install Feature (CIF).
Exceptions for when NOT to add #0002 to an order:
DO NOT generate #0002 if:

1.The MES is a software only order, adding sw users, adding new sw products, sw version upgrade (i.e.does not contain any hardware feature adds, removals, or conversions).
2.Adding new hardware machine types only, like a tape unit, external DASD, and so on which drive no change on the iSeries or AS/400 system.
3.Feature 1311 is the only feature on the MES.

Prerequisite: 29xx specify code.

Multiple #0002 features allowed on inventory records. #0002 should be removed from inventory records if #0003 is added or at the next model upgrade.

#0003 Notify CSO after Install

This feature is used to indicate that CE involvement is required to install this MES. This feature drives CE installation instructions, MES package labeling, and indicates that an IBM CE should be dispatched to install the MES.
For orders installed by IBM personnel, the "CE" will notify CSO (Customer Support Operations) after the install is complete. e-config adds #0003 to all MES orders where #0002 is not added (see exceptions to this below).
Multiple #0003 allowed in the inventory records. #0003 should be removed if #0002 is added.

Exceptions for when NOT to add #0003 to an order:
DO NOT generate #0003 if:
1.The MES is a software only order, adding sw users, adding new sw products, sw version upgrade (i.e.does not contain any hardware feature adds, removals, or conversions).
2.When adding new hardware machine types only, like a tape unit,external DASD, and so on which drive no change on the iSeries and AS/400.
3.the MES contains only hardware feature adds or removals of features listed in the inventory cleaning table (i.e.5000, 50xx,29xx,02xx,00xx).
4.Feature 1311 is the only feature on the MES.

Tip/Technique 37: Tower Conversions #5065/#5066 --> #5074/#5079

The following describes the support for tower conversions from #5065/#5066 --> #5074/#5079.
To perform a tower conversion the user must: (single tower conversion example)
1- Explicitly remove a #5065/#5066
2- Explicitly add a #5074/#5079. This is not necessary if e-config automatically adds a tower because of other selections a user has made for example adding disk that go into a #5074.
3- Explicitly remove IOAs in the #5065/#5066 that are not supported in the #5074/#5079
For example a #2724 or #2748.
4- Explicitly add convert to IOAs on the System Options-->IOP selection page
For example the #4748 has a new conversion from the #2748. A #2724 does not have a conversion but have a functional equivalent feature #2744 that will result in a full price add if explicitly added by the user, not a conversion.
Similarly to the towers it is not necessary to explicitly add IOAs if e-config automatically adds an IOA that also provides
the user a conversion. **Since this may or may not happen, it is best if the user makes explicit selections to drive the conversions.**

Whenever a #5065 or #5066 tower is removed by the user the following message is created

in the 'Messages' folder tab view (the configurator does not remove #5065s
automatically).
"You have tried to remove a #5065/5066 PCI Expansion Tower, but features
remain in the configuration that require this tower. If you wish to remove
the tower, you must remove or convert these features to operate in a
#5074/5079. For features that are convertible,
remove them and add the appropriate features for the #5074/5079. The System
Diagram may help to determine which features need to be removed."

A key benefit of the system diagram is to assist the user for this kind of
activity as it will show the IOAs and what tower they are being placed in.

This gives the user insite as to why hardware is needed in the configuration.

Tip/Technique 38: Disk Protection on Model 8xx Systems
The selection for 'No Protection' on the Hardware --> Basic Options --> Data
Protection is no longer available. While doing an upgrade if 'No Protection'
was specified on the installed system, it will remain valid on the proposed
system. When processing an upgrade configuration for a system with a #004x
feature code installed, and 'No Protection' is desired, remove the #004x
feature code using base edit before proceeding to the upgrade. The order

process will allow orders without a #004x feature code.

Tip/Technique 39: iSeries Racks
This tip provides additional information and clarification of the feature
iSeries racks.
-The #0551 rack is available on the Model 820 but it is not possible to mount
the Model 820 System Unit in a rack.
-There are two feature iSeries racks, #0550 and #0551. The #0550 is strictly
for mounting a Model 830 System Unit.
-The #0551 is a generic iSeries rack. The following specify feature codes
indicate certain hardware mounted in a #0551:
    #0121 means that a 270 System Unit is mounted in the bottom of the rack
    #0122 means that a 270 System Unit is mounted in the top of the rack
    #0123 means that a #5074 expansion tower is mounted in the bottom of the
    rack
    #0125 means that a #5079 expansion tower is mounted in the bottom of the
    rack
    #0127 means that a 270 System Unit is field installed in the rack
    #0578 means that a PCI expansion unit is mounted in the rack
- So the 830 System Unit can be mounted in a rack as indicated by #0550. The
270 System Unit can be mounted in a #0551 feature rack as indicated by #0121,
#0122, or #0127.
- The #0551 rack is supported on all 8xx models including the Model 820. The
description of feature #0551 was changed to simply 'iSeries Rack' on 1/26/2001

as it's prior description was Model 270 rack.

Tip/Technique 40: Disk maximums when 2105 configured
The configurator includes any 2105 disks that are configured in it's maximum
capacity check rules, but since the capacity may be distributed among multiple
systems, if the system capacity is exceeded, the message is a warning (YELLOW)
instead of a fatal (RED) if the capacity is exceeded due to the 2105s and not

just based on the internal disks.

Tip/Technique 41: RPO MESs created during an upgrade
The configurator will sometimes created RPO MESs during an upgrade
configuration. The MES will be created as an RPO instead of a regular MES.
An RPO MES will be created for hardware orders if:

- Hardware feature MES order transactions exist AND
- No physical hardware is shipping from IBM as a result of the MES
Note: Primary language features such as #2924 (US) will only be added to the
hardware order if there is hardware shipping. If the only order transactions
are RPO MESs, the feature is not added.

Tip/Technique 42: How do I view and use a proposed system in a
saved configuration without restoring (and validating) the
proposed system?
Includes: PTI or PTF file 'open' or 'Restore' .CFR file
To view follow these steps:
1- Left click on the 'CFR' item, not the 'SYS' item
2- To use proposed system as starting point system during an upgrade:
3- Right click on 'CFR' item and select 'Export'
4- Export .CFR file
5- Portfolio-->Add-->Upgrade/MES or Restore CFReport
6- Select .CFR file that you exported

Tip/Technique 43: #5101 placement on an MES
Configurator users are unable to specify placement of feature #5101 during
configuration. The #5101 may be placed in the system unit or expansion towers.
How can you control?
Place seperate orders for #5101 and system towers. The IBM CE can place is
system tower at the customer location if shipped seperately from plant and not
as part of a system tower.

Tip/Technique 44: What do items in 'italics' mean on the System
Diagram?
Italics items indicate the hardware item is not included on the configuration
report.

Tip/Technique 45: Feature Code #7010 and #7000 'Operations and
Setup CD Things to know
V5R1: #7010
V5R2: #7000

Basically the things to know about the Operations and Setup CD are:
1-It is shipped on a Hardware/Software initial order even though feature code
#7010 or #7000 is not present.
2- It is not required on MESs of 5722-SS1
3- #7010 is added to the order when:
-Doing an MES order to V5R1
-Using Software Only version of e-config, doing an initial order, and #5809 is
on the order
4- #7000 is added to the order when:
-Doing an MES order to V5R2
-Using Software Only version of e-config, doing an initial order, and #5819 is
on the order

Tip/Technique 46: How do I order a set of backup media for V5R1
OS/400 and keyed software products?
Ordering a set of backup media for V5R1 OS/400 and keyed software products
(re-shipment of software media) is accomplished by ordering 5722-SS1 with

feature code #8000, and an appropriate language feature code, #29xx. This can
be accomplished using the iSeries Server version of e-config or the iSeries
Software only version of e-config (make sure you have selected 5722-SS1).

Go to Software-->Software Global Options-->Shipping Options-->
Backup Tape-->Select 'Ship backup media'.
Note: There is a charge associated with the order.

Tip/Technique 47: Managing Software Subscription renewal and
after license.
The following table is intended to document how to manage and determine
Software Subscription (5733-SW1, 5733-SW3) renewal and after license
configuration. It in no way affects registration, renewal, or after license
configuration of Software Acquisition Model products such as 5733-WA4 and it's
corresponding maintenance software products 5733-M37/M38. Column #1 represents
the configuration results that you will see.

Renewal or After License Configuration result	A- Is software subscription on the installed system?	B- Do you wish to keep your existing prepaid period contract? [CheckBox]	C- Version 4 or 5 of OS/400 (57xx-SS1) was acquired within the past 30 days. [CheckBox]	D- Is SW Subscription being ordered for an AS/400 system that was purchased used? [CheckBox]
Renewal	Yes	Yes	N/A	N/A
After License	Yes	No	No	N/A
Renewal	Yes	No	Yes	No
After License	Yes	No	Yes	Yes
After License	No	N/A	No	N/A
Renewal	No	N/A	Yes	No
After License	No	N/A	Yes	Yes

Notes:
A- This includes 5733-SMx and 5733-SWx versions of Software Subscription.
B- This selection is found here:
Software->Software Subscription->Subscription->Additional Services->Do you
wish to keep your existing prepaid period contract? [CheckBox]
The default is 'checked' during an upgrade configuration if Software
subscription is included on the installed system.
C- This selection is found here:
Software->Software Subscription->After License->Version 4 or 5 of OS/400
(57xx-SS1) was aquired within the past 30 days [CheckBox]
For both the iSeries Server (hardware and software) version and the Software
Only version of e-config, when performing an upgrade, this checkbox is
defaulted as 'un-checked'.
D- This selection is found here:
Software->Software Subscription->After License->Is SW Subscription being
ordered for an AS/400 system that was purchased used? [CheckBox]
E- NEWSYS configurations:
The same logic applies when doing a normal configuration or a NEWSYS (replace
hardware and upgrade software) configuration. You must make the same
selections to get the desired results!

For example if you have software subscription on the installed system, uncheck
'Do you wish to keep your existing prepaid period contract? [CheckBox]', and
do NOT check
'Version 4 or 5 of OS/400 (57xx-SS1) was aquired within the past 30 days'
[CheckBox], the result is you will get AFTER LICENSE on Software Subscription.
You must check 'Version 4 or 5 of OS/400 (57xx-SS1) was aquired within the
past 30 days' [CheckBox] in order to NOT get After License. The default is
this checkbox is NOT checked.

Tip/Technique 48: Managing Cum Tape shipment at V4 and V5
-V5R1: #1951 placed on 5722-SS1
-V4R5: #1991 placed on 5755-AS5
-Preload configurations
        -No longer default CUM tape selection
        -Allow explicit selection if desired
-Non-Preload configurations
        -Continue to default CUM tape selection
-Where do I find the selection for CUM tape?
Software --> Software Global Options-->Miscellaneous

Tip/Technique 49: Avoiding new #5074 on upgrades to Model 890
- Configurator cannot NET ADD the same feature code
- Scenario:
Installed Model 840 wtih (16) disks, (1) #5101, (1) #9079 --> upgrade
to a Model 890
Results: Configurator will add (1) #5074 for the #5101
How to avoid?
1- Remove (1) #5101
2- Add (1) #5107 30 Disk expansion (#9094/#8093) then #5101 is converted to a
                #5107.

Tip/Technique 50: When do I need to order a V5R1 Resave (feature
                code #2690) ?

Feature #2690 License Interal Code Refresh, is used to deliver an updated
version of SLIC (Licensed internal code) for an iSeries customer. The feature
was first introduced on 5722-SS1 in 1Q02 (Level RSD).
It is available as an optional selection during a V5R1 MES today.
A new version (Level RSE) will be available in e-config on June 4, 2002. It
is required for Model 830 processors #2349, #0153 and Model 840 processors
#0158, #0159. For V5R1 MES/Upgrades to one of these processors the
configurator will default 5722-SS1/2690 and not allow de-selection.

Go to Software-->Software Products-->5722-SS1-->Optional features-->Select
'5722-SS1 Licensed Internal Code - Level RSE (GA 5/31/2002)'
Note: There is NOT a charge associated with this feature.

Tip/Technique 51: What are feature codes #0705, #0706, and #0707
                used for?
The following tip explains the use of these feature codes and the reason an AIPL specify feature
code is no longer used on the Model 890.
There are several reasons for no longer requiring an AIPL specify feature code on the Model 890.
1- A tape device is no longer required for save and restore functions with the advent of
DVD-RAM and CD-ROM. On the Model 890

DVD-RAM (#4430) is defaulted and can be used as the save/restore device. It is however recommended that it not be the ONLY
save/restore device on the system.
2- The AIPL specify feature code (and amount of disk on the system) in the past was used to determine the type and number
of blank tapes to send to customers when they ordered a system. This is no longer being done, hence this need for the AIPL feature
is gone.
2- The #0705, #0706, and #0707 feature codes are now used to indicate a placement of a tape IOA in the 1st EADs so that using
the Alternate Install Device Option via DST is not required.
For example:
Feature #0705
Use of this specify will cause this system to have a #2749 IOA placed in the first EADs so that using the Alternate
Install Device Option via DST is not required.
Feature #0706
Use of this specify will cause this system to have a #2765 IOA placed in the first EADs so that using the Alternate
Install Device Option via DST is not required.
Feature #0707
Use of this specify will cause this system to have a #2768 IOA placed in the first EADs so that using the Alternate
Install Device Option via DST is not required.

Tip/Technique 52: The Model 825 includes an imbedded Ethernet LAN

Tip/Technique 53: Model 825 Disk Controller Tips

- #4748/#4778 placed in the Model 825 CEC
If controlling load source, will only support 10 disks (not 12) and 2 internal tape/DVD
As 2nd controller in the CEC, will support 15 disk and no internal tape/DVD
Low-Cost solution may result in the auto-configuration of a #2782
- #2782 placed in the Model 825 CEC (also applies to #2763 when in 825 CEC)
If controlling load source, will only support 5 disks (not 12) and 2 internal tape/DVD
As 2nd controller in the CEC will support 10 disk (not 12) and no internal tape/DVD
- #2757 placed in the Model 825 CEC
If controlling load source, will support 15 disks (not 18) and 2 internal tape/DVD

Tip/Technique 54: Avoid add and remove of the following tower types on the same order
#5078, #5074, #5078, #5079, #0588, #5088, #5094, #5095, #5294
Resulting configuration may not have enough base adapters (eg. #9691, etc.)
How to avoid? Seperate configurations/orders for the tower adds and removes

Tip/Technique 55: #5705 PCI-X Tape/Disk Controller (Model 800/810 only)

Not selectable if RAID disk protection is also selected

Tip/Technique 56: Only #45xx tape/CD/DVD are allowed in Model 800/810 CEC (no #46xx)

Tip/Technique 57: Disk maximums when using the #2782
Example: Model 810
In order to get to system disk maximums you must use #5094s
If you are using #2782s they go into #5095 and not #5094

Tip/Technique 58: How do I configure 2 Primary Languages for LPAR
Example: Both English U/L SBCS (2924) and English U/L DBCS (2984) are needed
2 Options:
Option 1: Order a set of backup-Media
One way involves ordering an English U/L DBCS (2984) set of the backup media (an option which ships a set of CDs for the keyed products for a charge of $85) and the English U/L DBCS secondary (if the customer has any 5722-xxx products that are not keyed). The use of the secondary media for any non-keyed 5722-xxx products would require switching back and forth between 2924 primary and 2984 secondary media to get the necessary program and language objects when doing the 2984 V5R2 upgrade in the secondary partition. But the biggest products from an install standpoint would be installed from the backup media.

Option 2: Release Upgrade (to V5Rx) example here is V5R1 to V5R2
The other option, which would definitely be easiest for the customer, is to process the V5R2 upgrade twice, using the same starting point cfreport (V5R1 with 2924). Since the user must be on software subscription to upgrade to V5R2, there would be no charge. One of the upgrades would be done specifying that the language is English U/L SBCS (2924) and the other upgrade would specify that the language for the upgrade to V5R2 is English U/L DBCS (2984). When the 2984 upgrade is done, you must make sure that English U/L DBCS is specifically selected (check the language box in the screen list filter to make the selections) for any non-5722 products (assuming they support 2984 as an orderable language). However, there are very, very few non-5722 products that actually changed between V5R1 and V5R2 (5798-FAX and 5769-LNP are two examples) and the products that changed are the only ones that will have orders generated. Doing the upgrade from V5R1 to V5R2 twice will result in two sets of records in AAS. The next time you need to order something for the customer, you will need to tell e-config which records to use in determining the starting point for the upgrade or MES. For your awareness, the IBM program library's records would show whatever order hit their system last as the language the customer has. Since all IPLA orders are new orders to the program library, we do not expect this to cause any problems.

This second option will get your customer everything needed to upgrade all the partitions, without having to be concerned (too much) about what products he has and without needing to order the English U/L DBCS backup media or English U/L DBCS secondary media for use in upgrading the 2984 partition.

Tip/Technique 59: Formulas to help understand how many Priced and Free OS/400 licenses I should get:

Free Licenses = Proposed startup processors - Installed startup processors

New Licenses = Proposed licenses - Installed licenses

Full Price Licenses = New licenses - Free licenses

Model to Model Upgrade Licenses = Priced Installed Licenses

Model to Model Upgrade Licenses = (Total Installed Licenses - Installed startup processors)

Proof of Entitlement Feature (#50xx) = Free Licenses + Full Price Licenses

Let's Take (4) Upgrade Examples..

Example 1: 2003 Model MES

Installed System	Proposed System
825 3/6 Way + 0 PODs	825 3/6 Way + 2 PODs
3 Total Licenses	5 Total Licenses
3 Free Licenses	0 Free Licenses (3 - 3)
0 Full Price Licenses	2 Full Price Licenses (2 - 0)
	0 Model to Model upgrade Licenses
#5003 (3 + 0)	#5002 (0 + 2)

Example 2: 2003 Model upgrading to 2003 Model

Installed System	Proposed System
825 3/6 Way + 3 PODs	870 8/16 Way + 7 PODs
6 Total Licenses	15 Total Licenses
3 Free Licenses	5 Free Licenses (8 - 3)
3 Full Price Licenses	4 Full Price Licenses (9 - 5)
	3 Model to Model upgrade Licenses
#5006 (3 + 3)	#5009 (5 + 4)

Example 3: 2003 Model upgrading to 2003 Model

Installed System	Proposed System
825 3/6 Way + 3 PODs	870 8/16 Way + 0 PODs
5 Total Licenses**	8 Total Licenses
3 Free Licenses	5 Free Licenses (8 - 3)
2 Full Price Licenses	0 Full Price Licenses (3 - 5)*
	2 Model to Model upgrade Licenses
#5005 (3 + 2)	#5005 (5 + 0)

Note: * Negative number will result in 0

** Reduced OS/400 Licenses by (1) perhaps to use Linux for that processor

Example 4: 2003 Model upgrading to 2003 Model

Installed System	Proposed System
825 3/6 Way + 3 PODs	870 8/16 Way + 1 PODs
6 Total Licenses	9 Total Licenses
3 Free Licenses	5 Free Licenses (8 - 3)
3 Full Price Licenses	0 Full Price Licenses (3 - 5)*
	3 Model to Model upgrade Licenses
#5006 (3 + 3)	#5005 (5 + 0)

Note: * Negative number will result in 0