Exploiting z/OS: Tales From the MVS Survey

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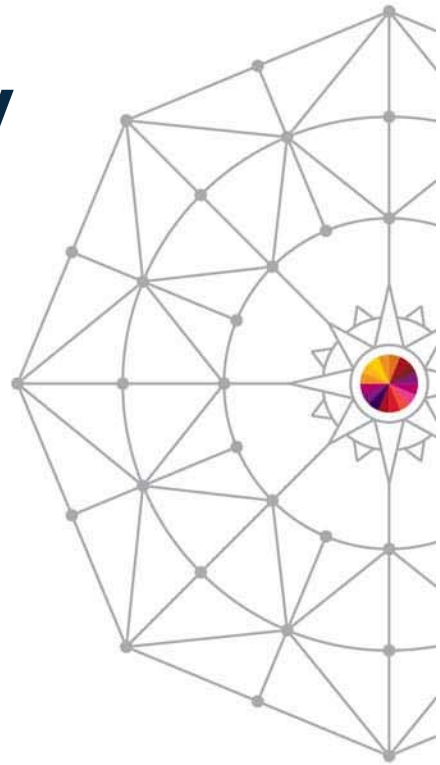

August 8, 2014
Session 15567

#SHAREorg

SHARE is an independent volunteer-run information technology association that provides education, professional networking and industry influence.

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Abstract

The SHARE MVS Program recently surveyed its members about whether they had exploited certain System z and z/OS enhancements. This session discusses the results of that survey. A full PDF describing these results will soon be posted on the SHARE MVS Program web page.

Thanks for your participation!

Agenda

- ☑ **The Survey**
- Hardware Results
  - Most Beneficial Hardware
- Software Results
  - Most Beneficial Software

The Survey

- Previous survey was completed 10/1/12 with 76 responses
- New survey published on 6/23/14; closed on 7/28/14 with 105 responses – over a 38% improvement!
- There could be multiple responses from the same site
- Location – MVS Program on SHARE.org
- Advertised to: MVS Program requirements members; MVS Program members at

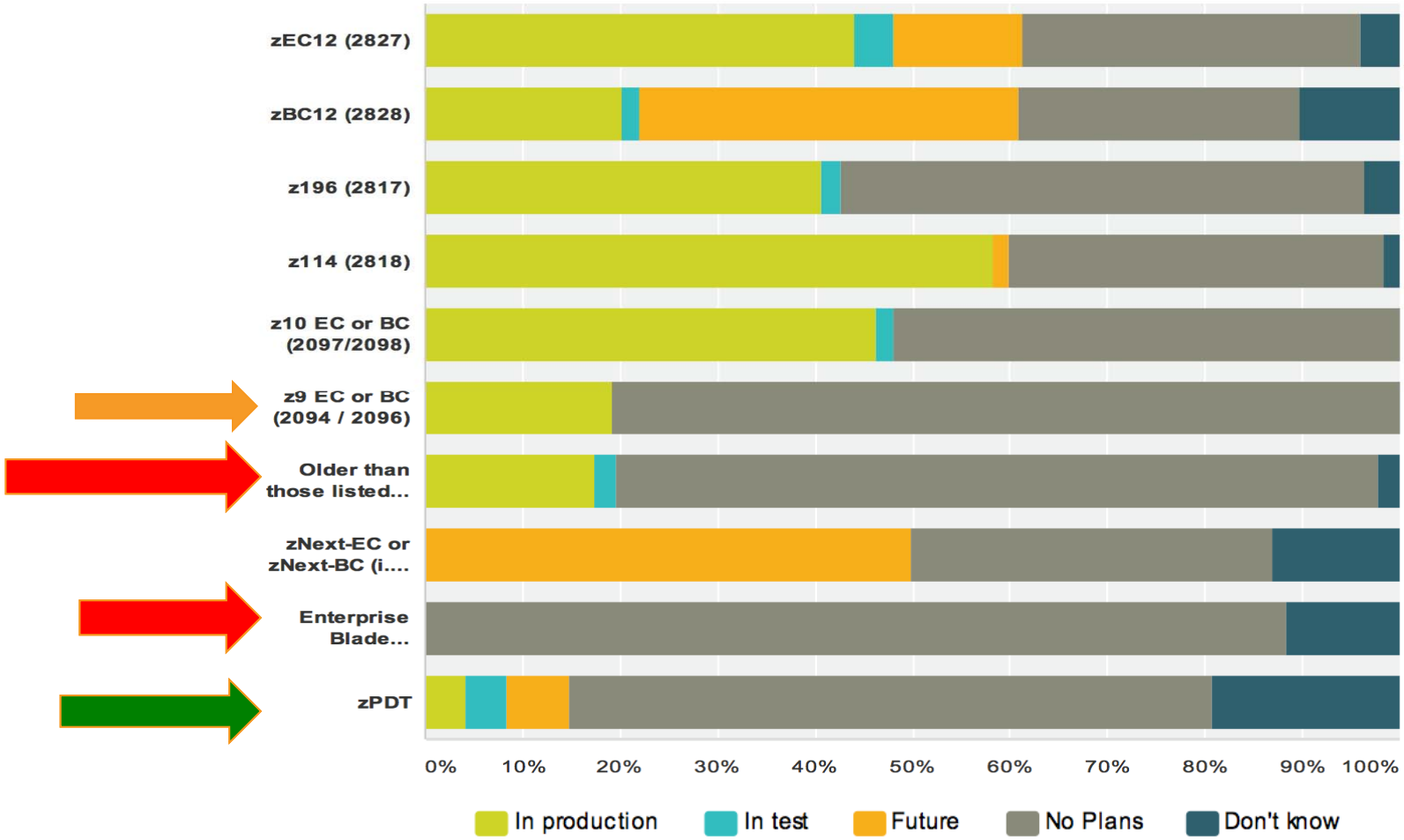
  (http://www.share.org/p/co/ly/gid=1833); IBM-Main; various mailing lists

Thanks to all that participated!

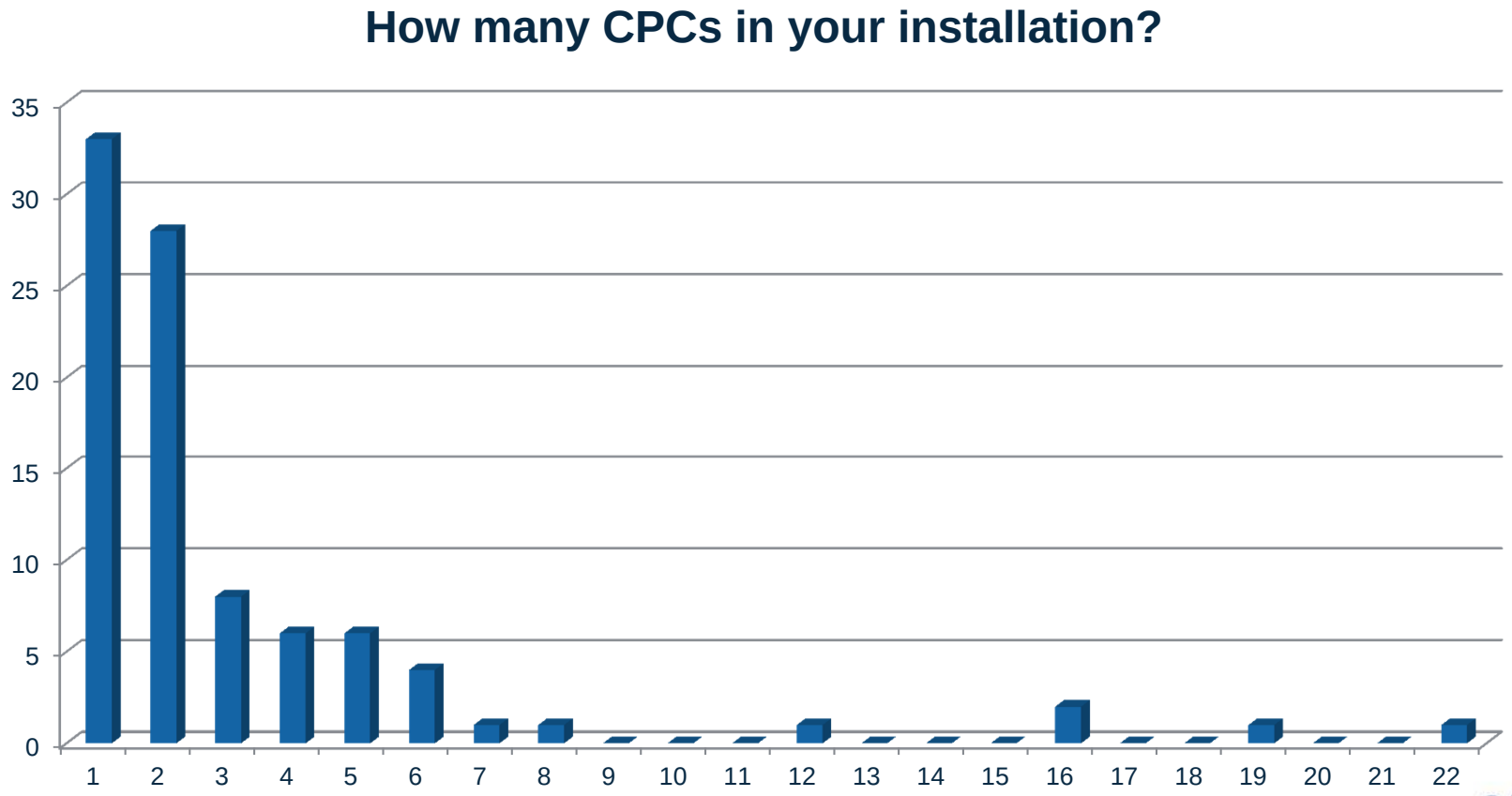
Agenda

- The Survey
- ☑ **Hardware Results**
  - Most Beneficial Hardware
- Software Results
  - Most Beneficial Software

H/W – Status of Servers



H/W - How many CPCs in your installation?

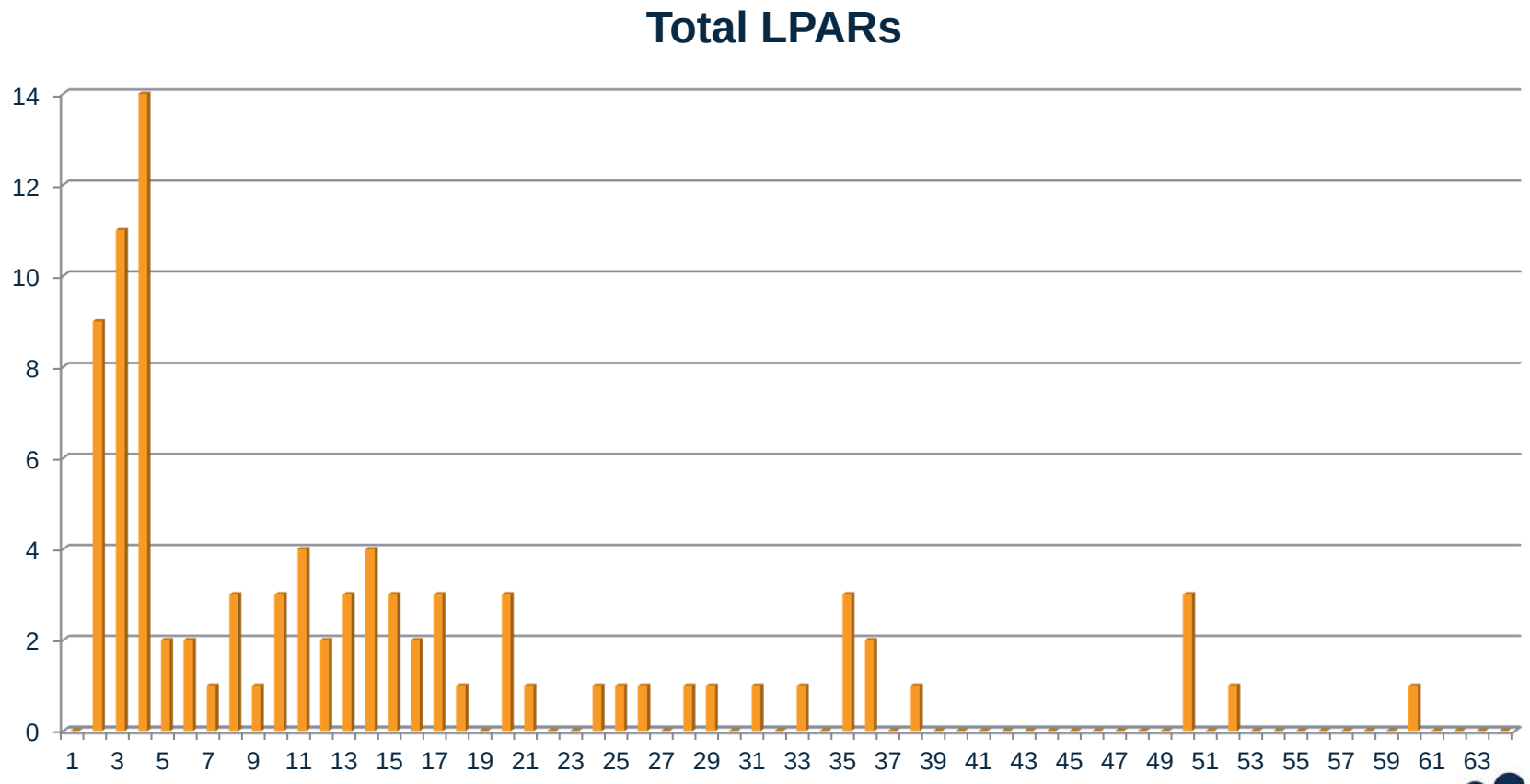


H/W - POK Test Data Center

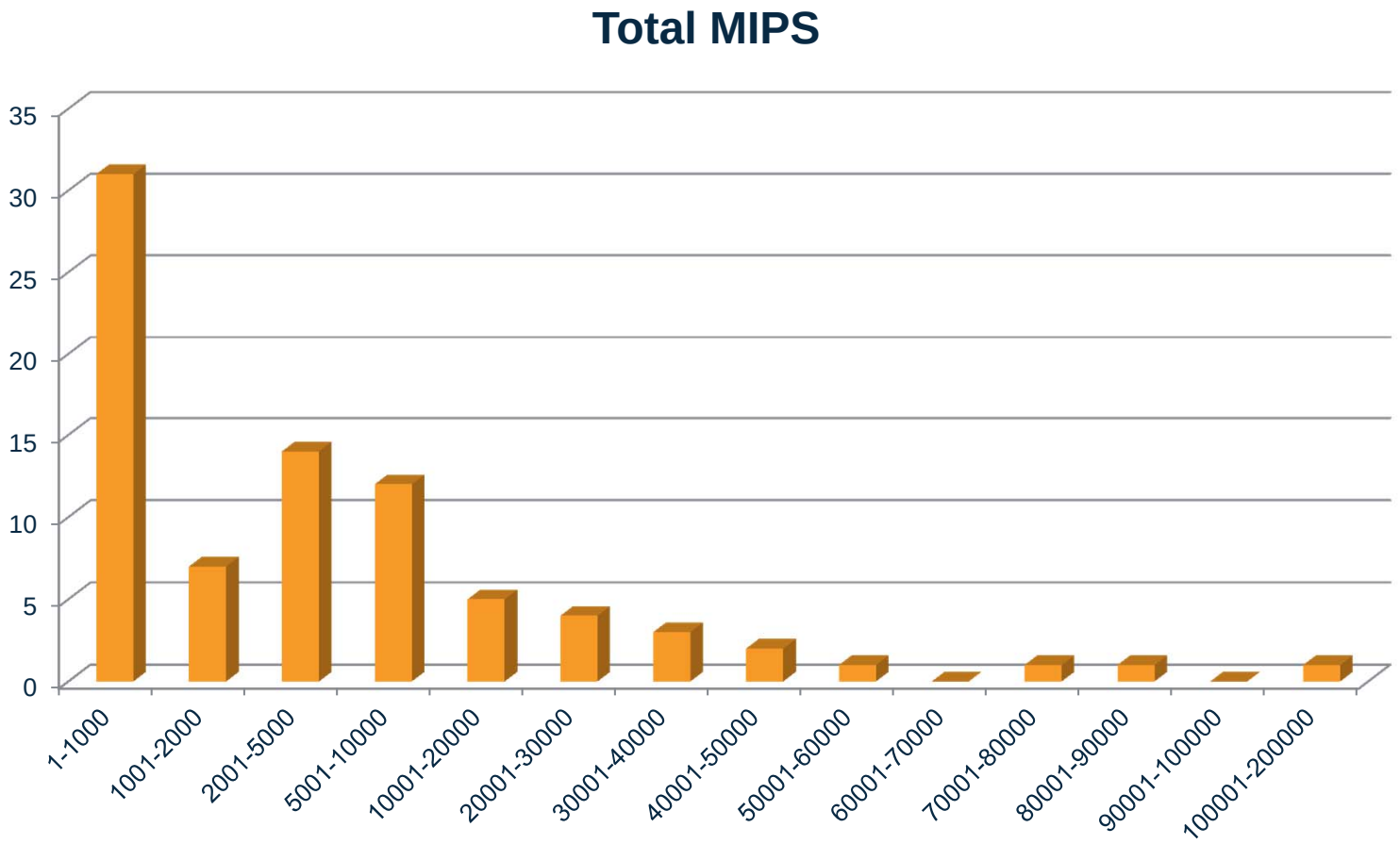
H/W – POK System Test Center

- 200 CPUs, 5 PB of data, 122 switches, 56000 FICON connections, 100,000 connections in cabling room
- For an interesting video about the IBM Poughkeepsie system test facilities (and a glimpse at an up and coming young Hollywood star, **Rich Prewitt**), see https://www.youtube.com/watch?v=ake7bbMG4Tc

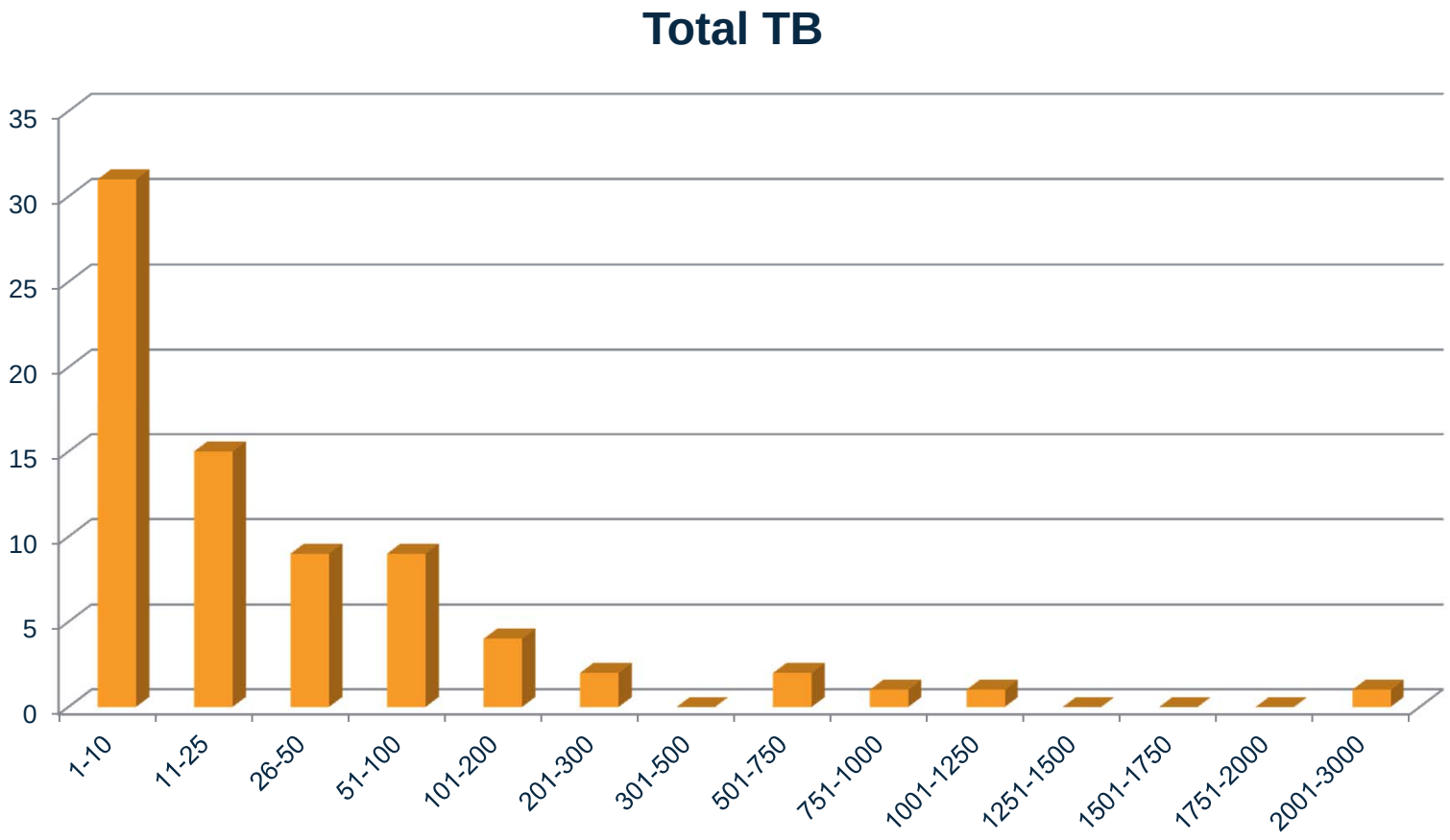
H/W - How many LPARs?



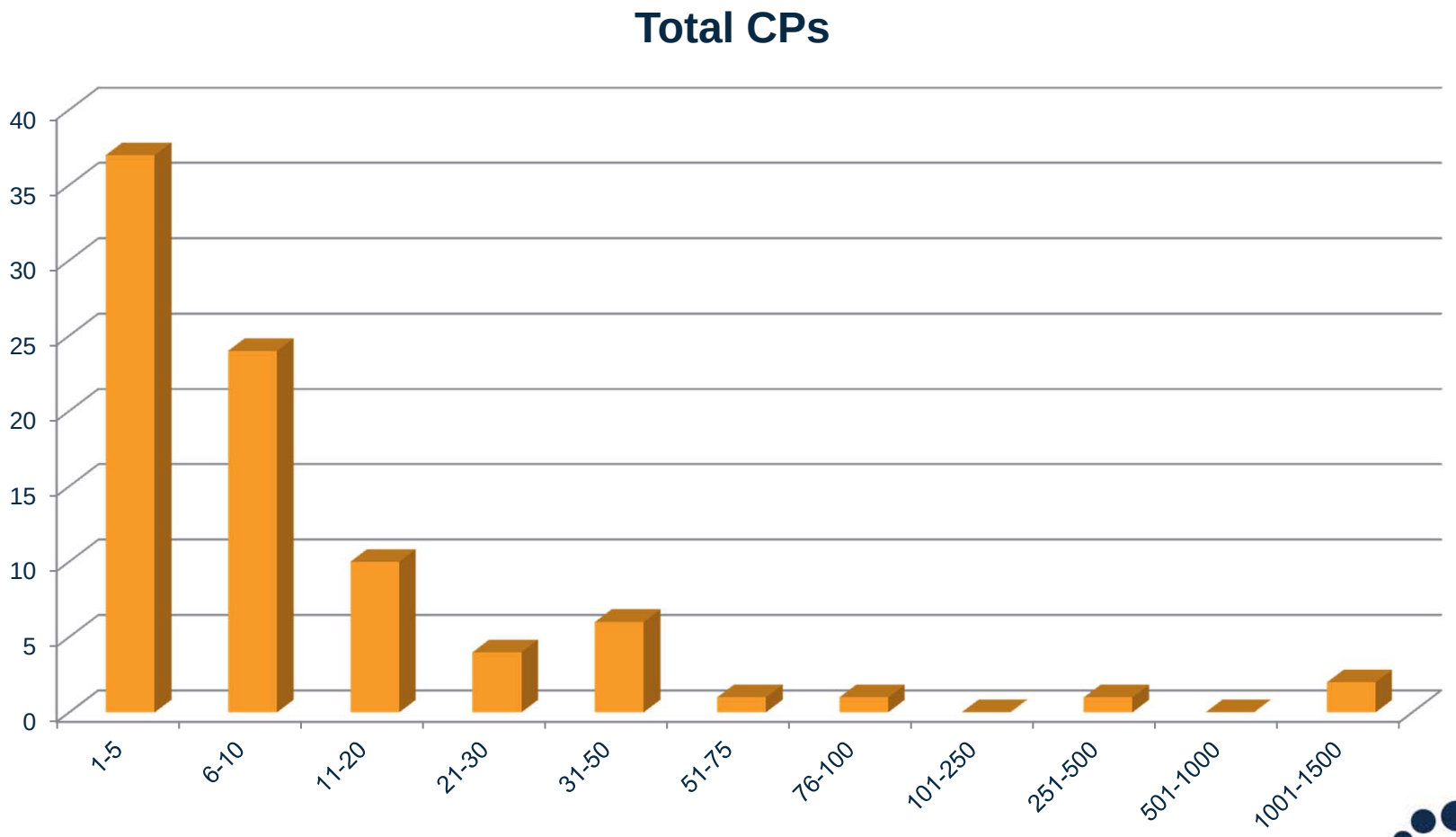
H/W - How many MIPS in your installation?



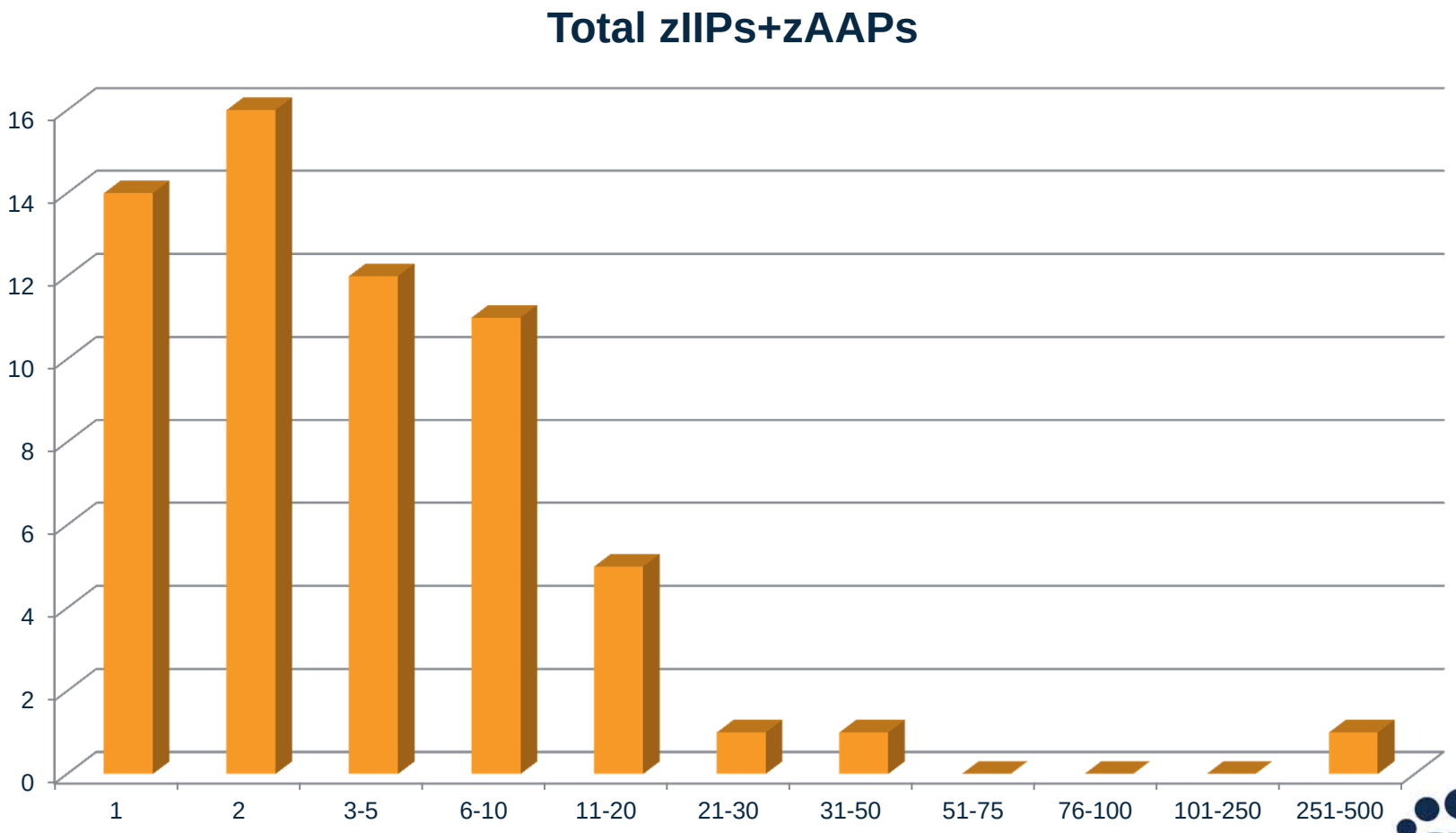
H/W - How many TBs of Primary DASD?



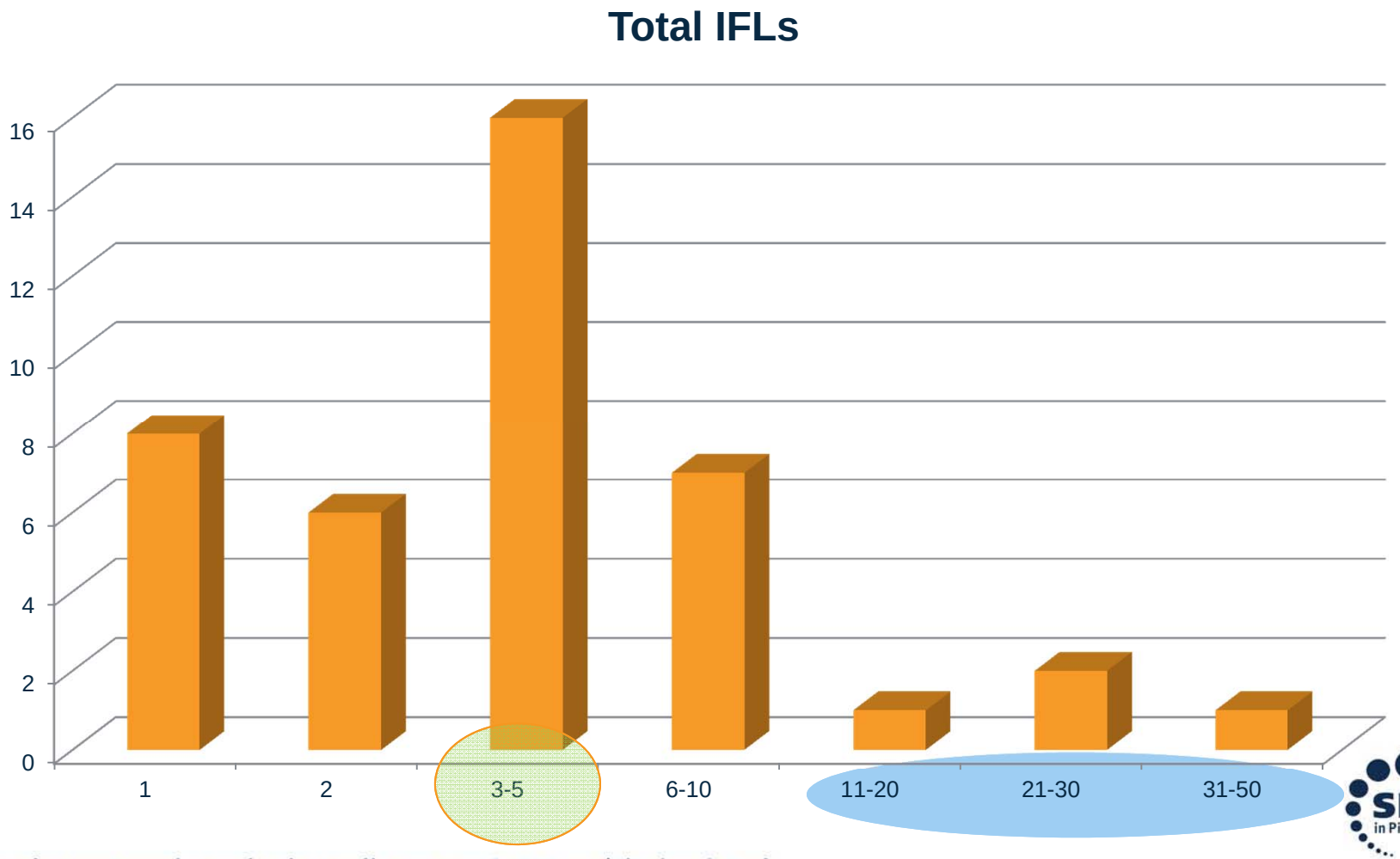
H/W - How many General Purpose CPs?



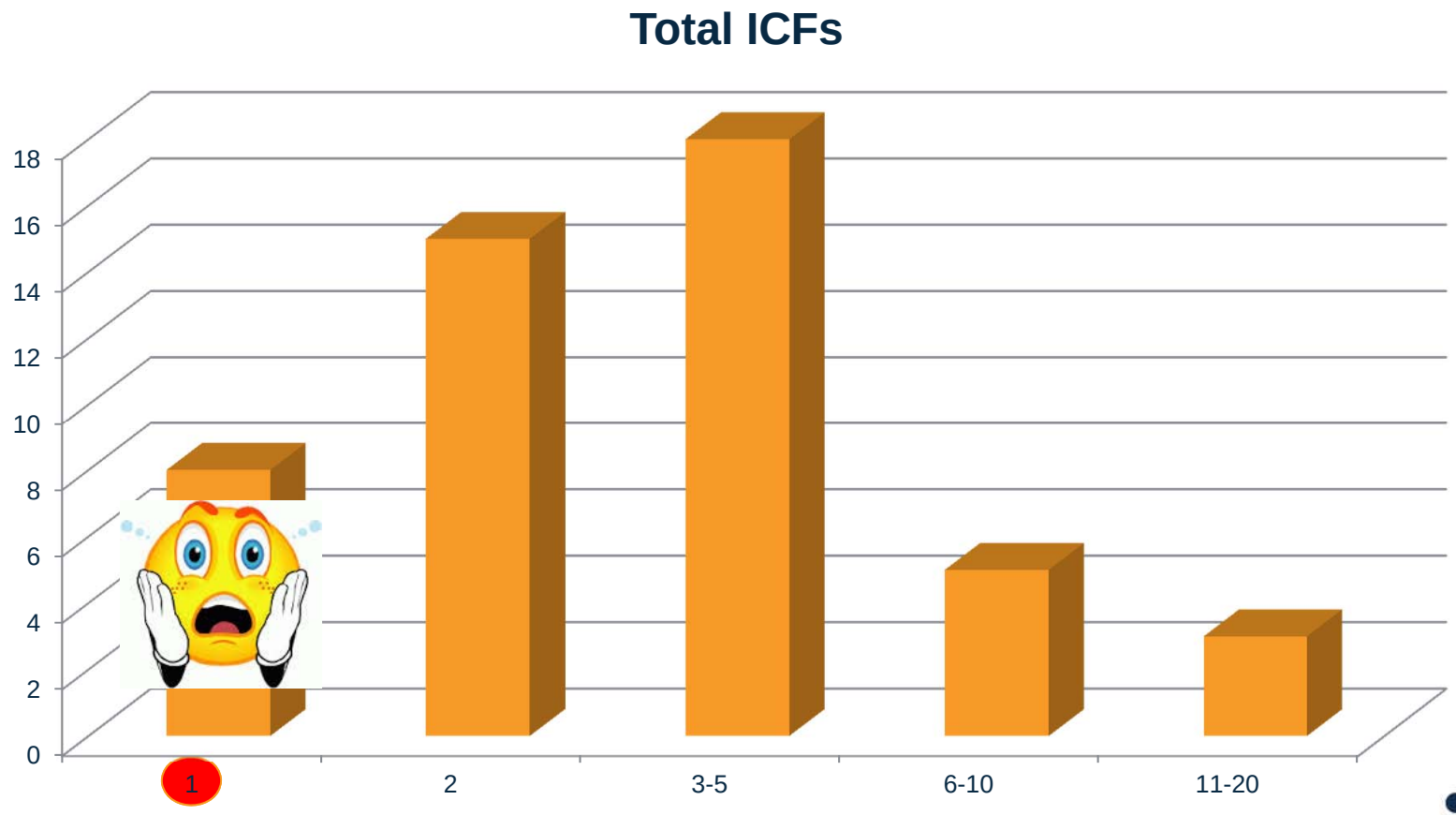
H/W - How many zIIPs + zAAPs?



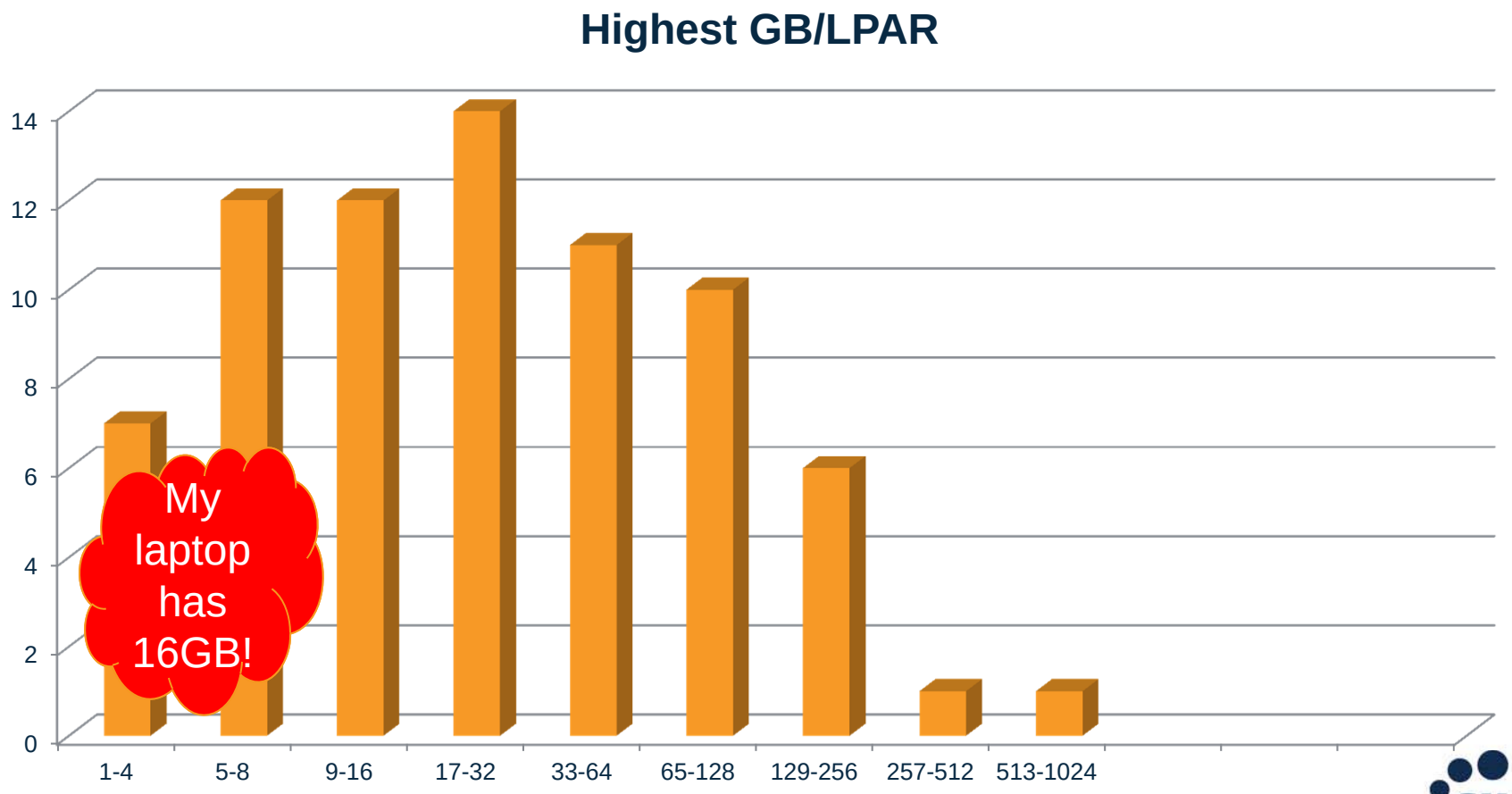
H/W - How many IFLs?



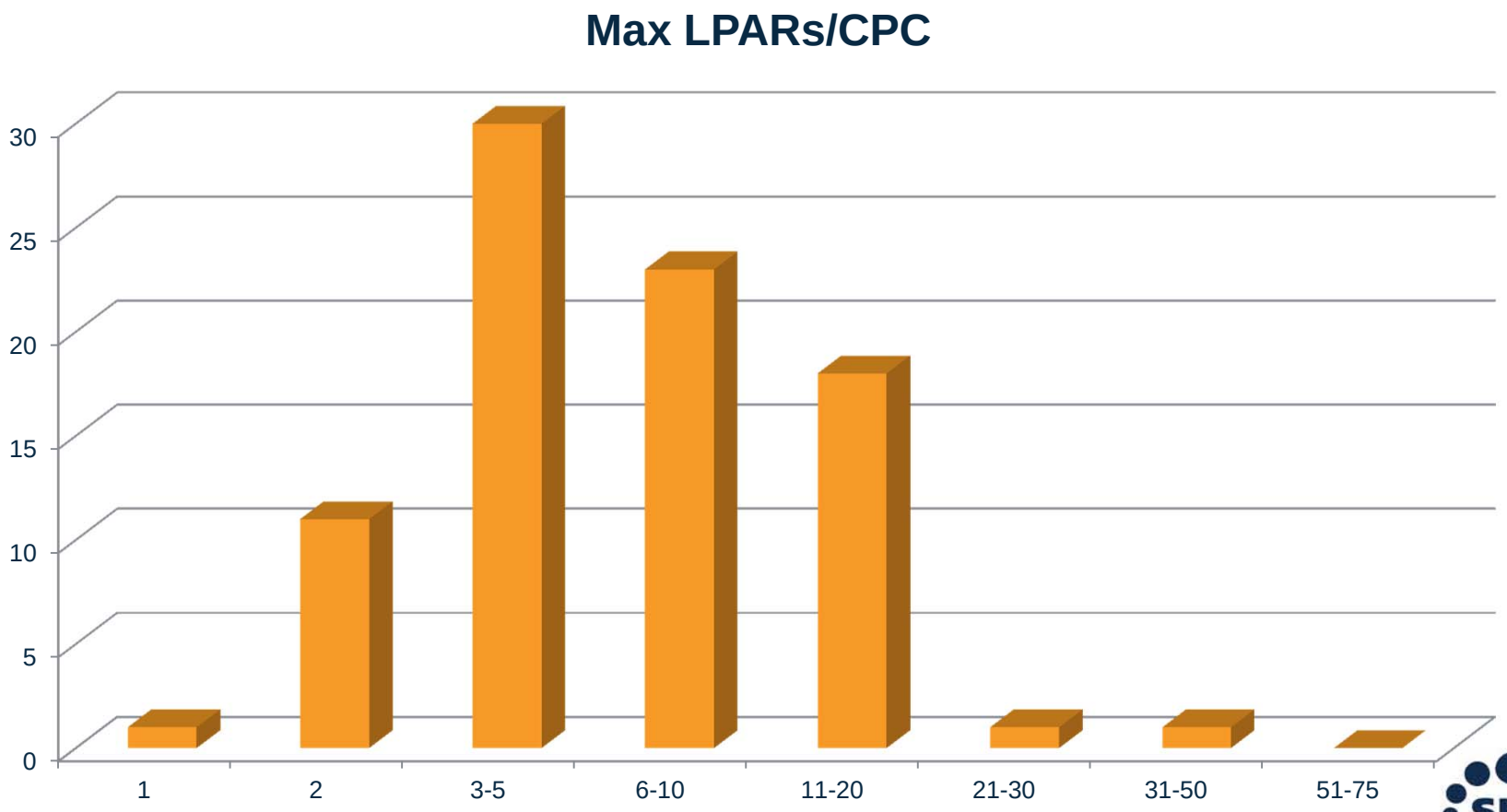
H/W - How many ICFs?



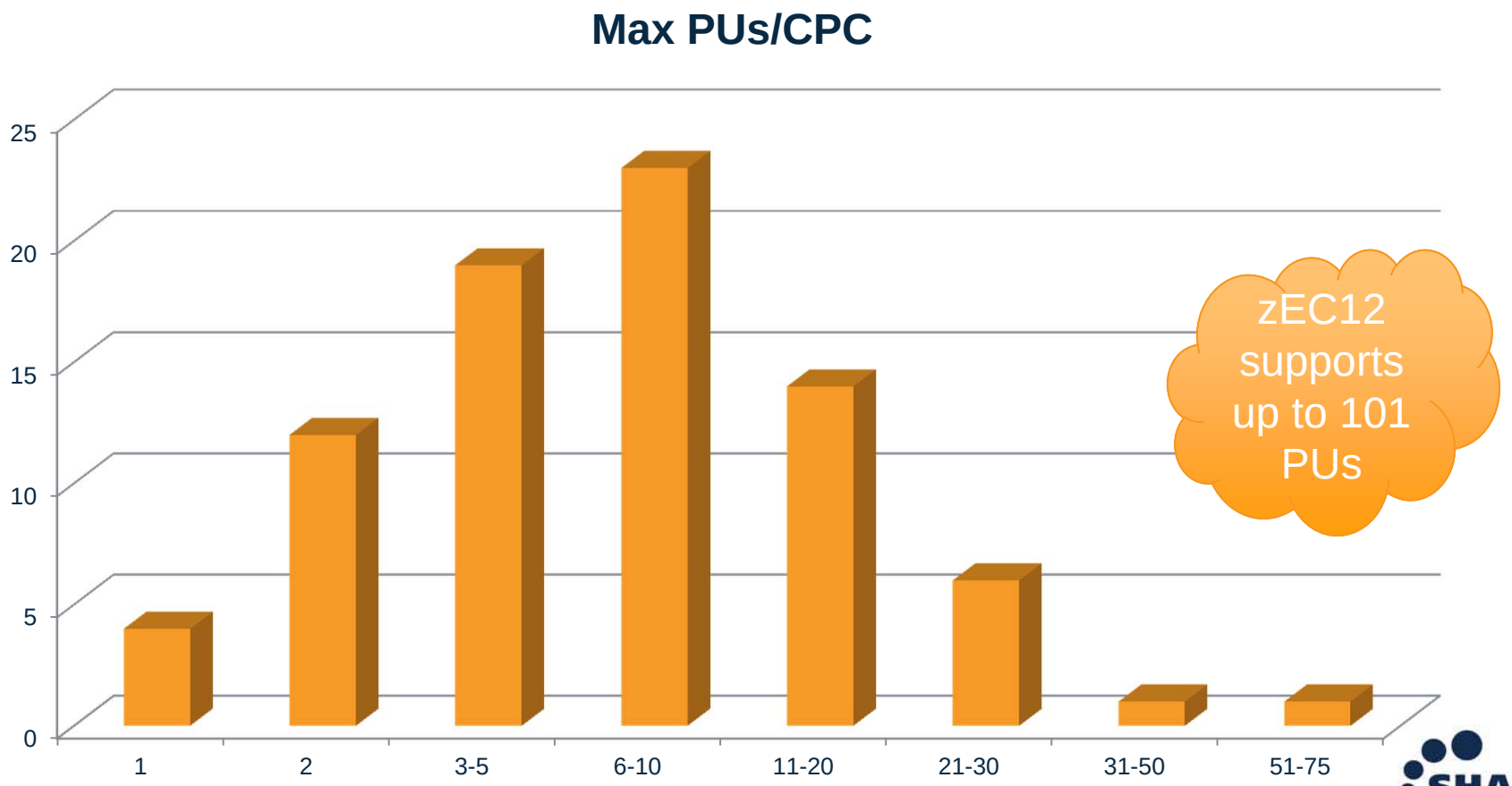
H/W - Highest number of GB in a single LPAR?



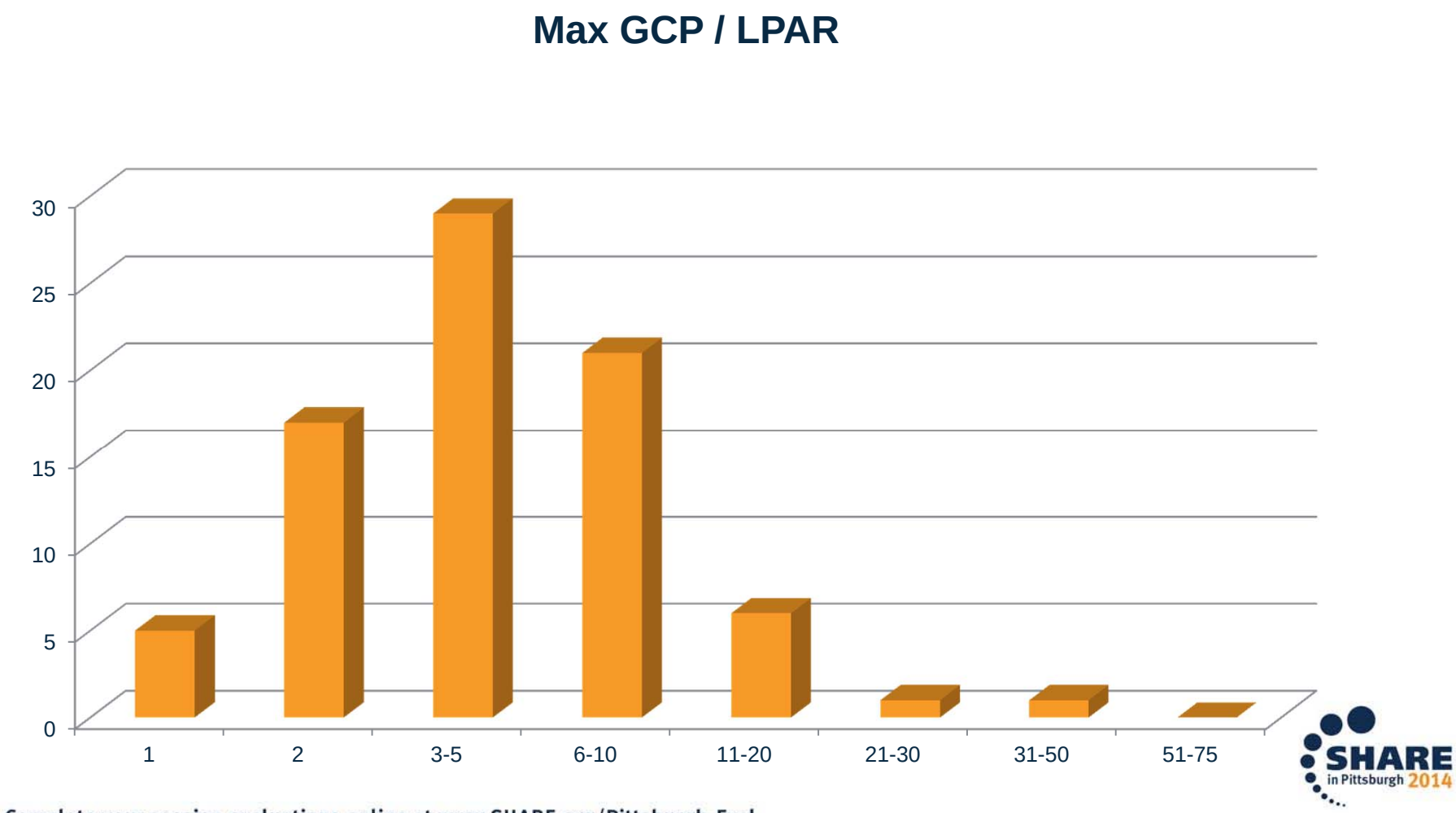
H/W - Highest number of LPARs on a single CPC?



H/W - Highest number of PUs on a single CPC?

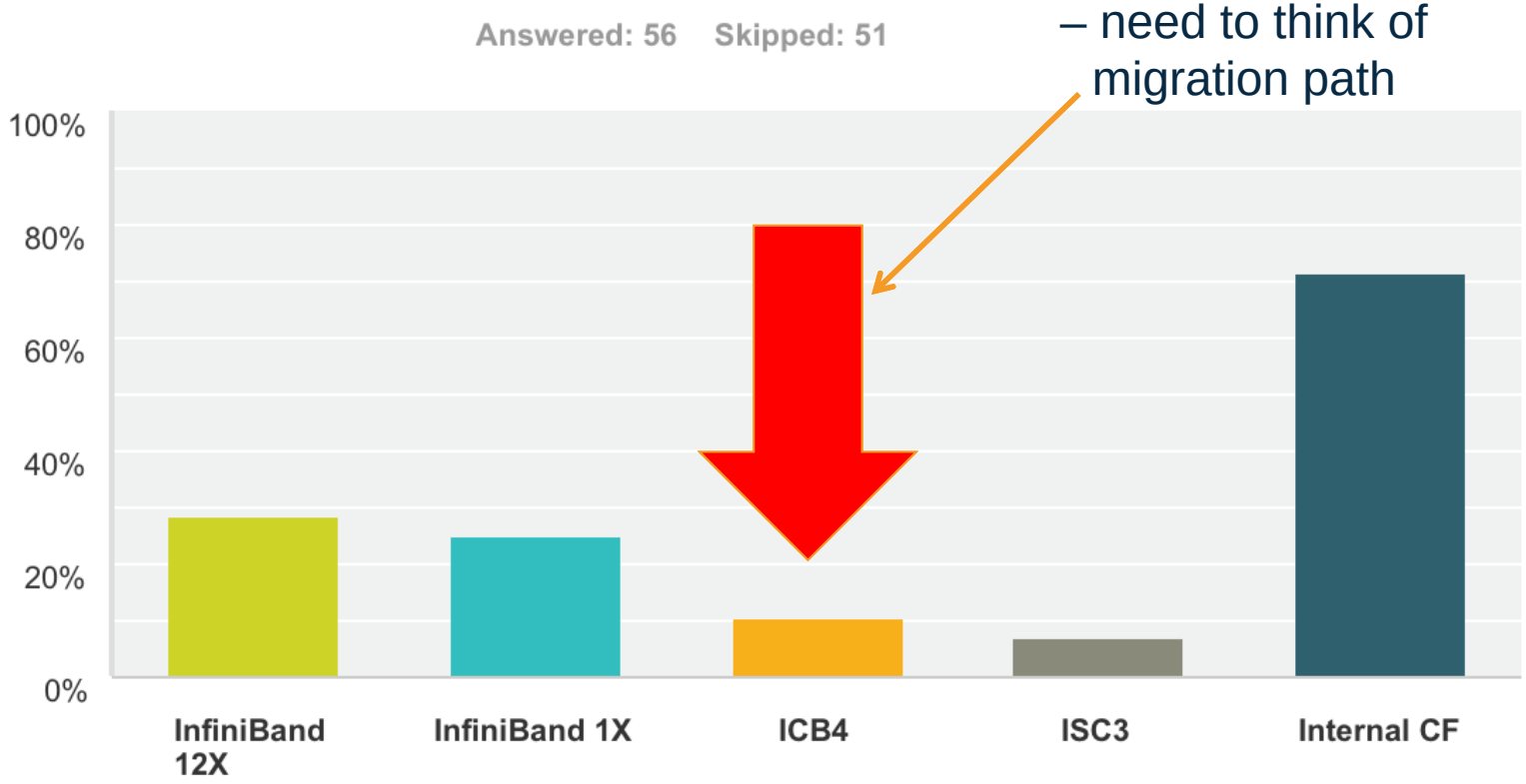


H/W - Highest number of general purpose CPs in a single LPAR?

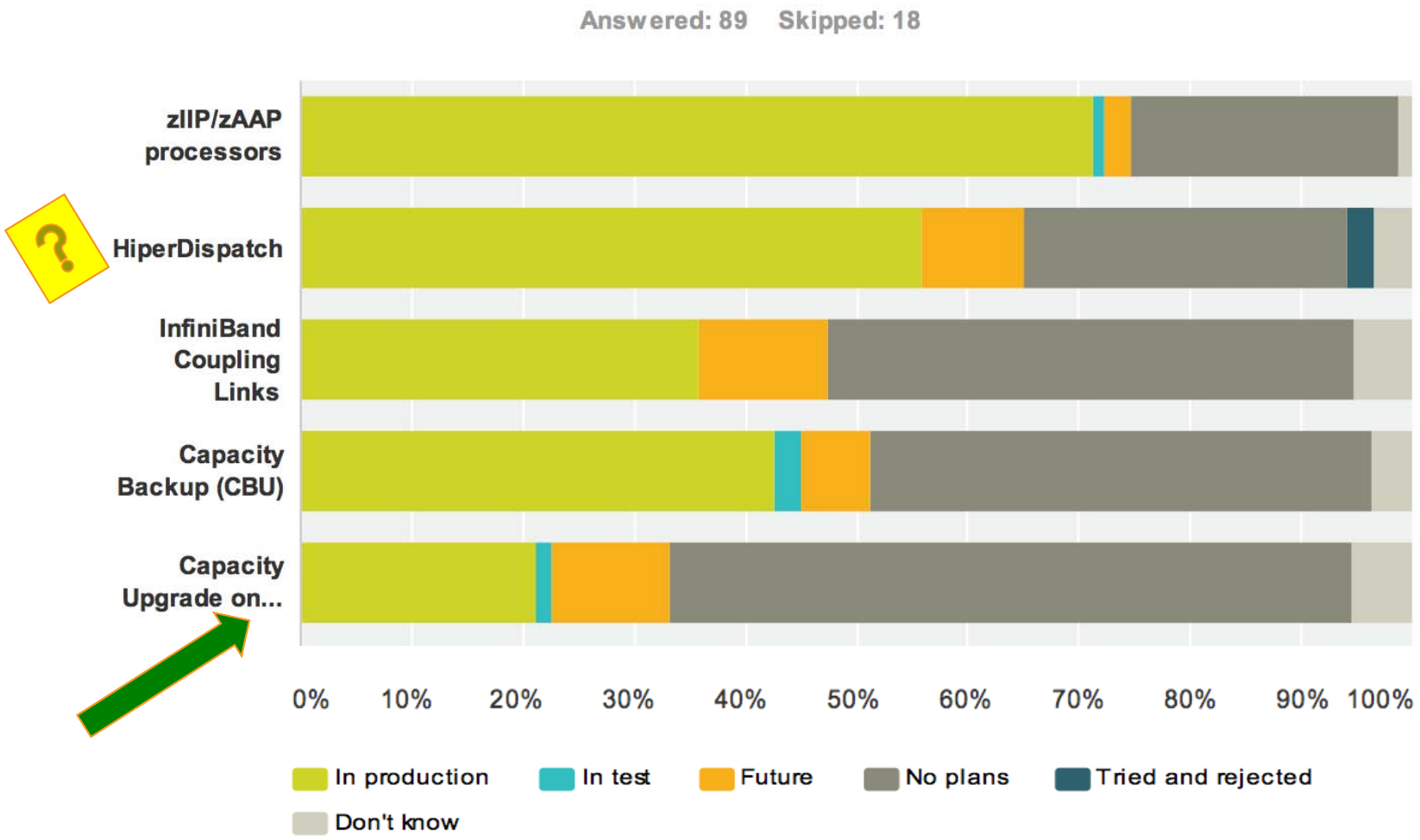


H/W - Types of CF Links in Use

Not supported after z10 – need to think of migration path



H/W – Status of System z Features



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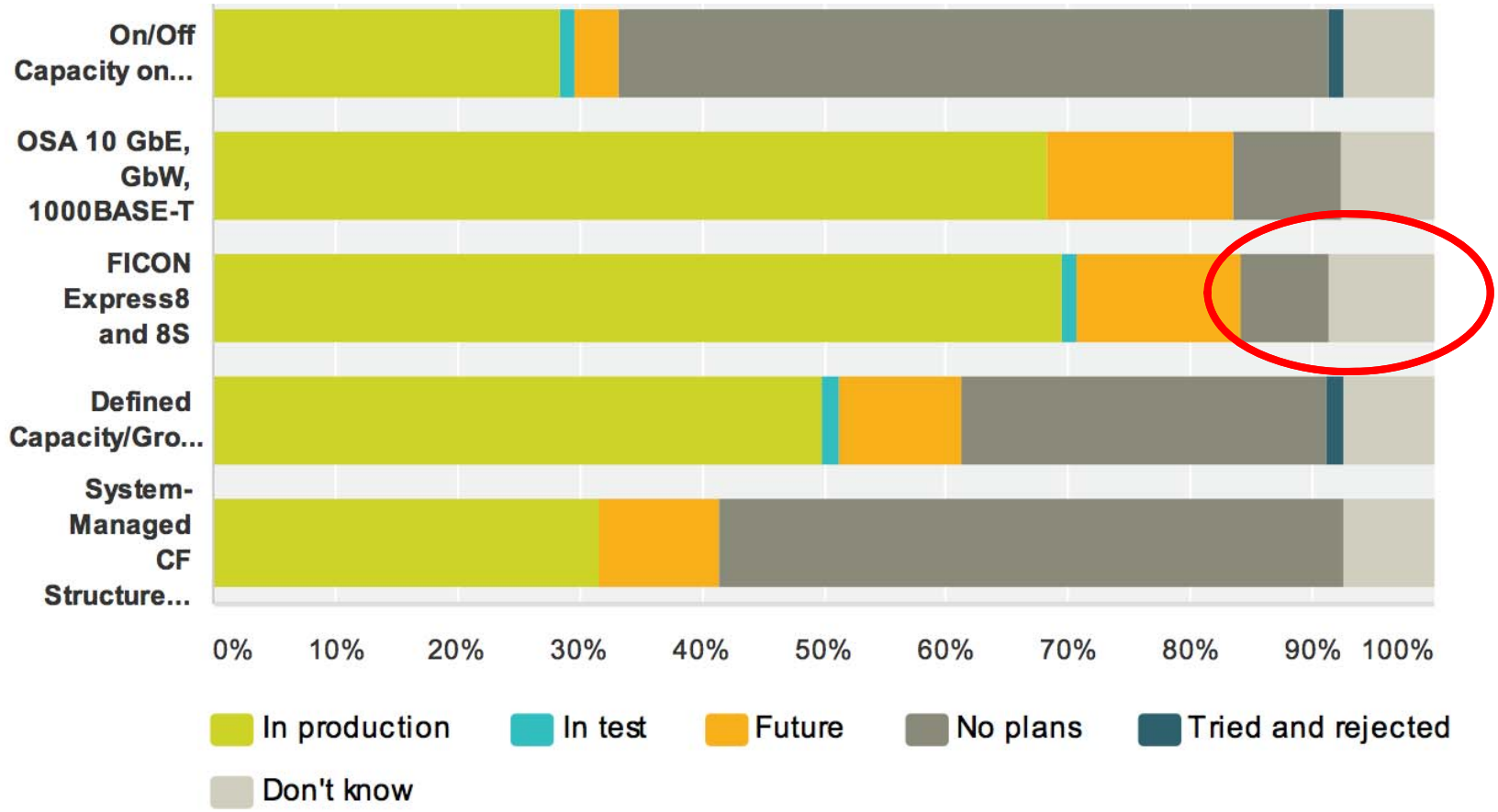
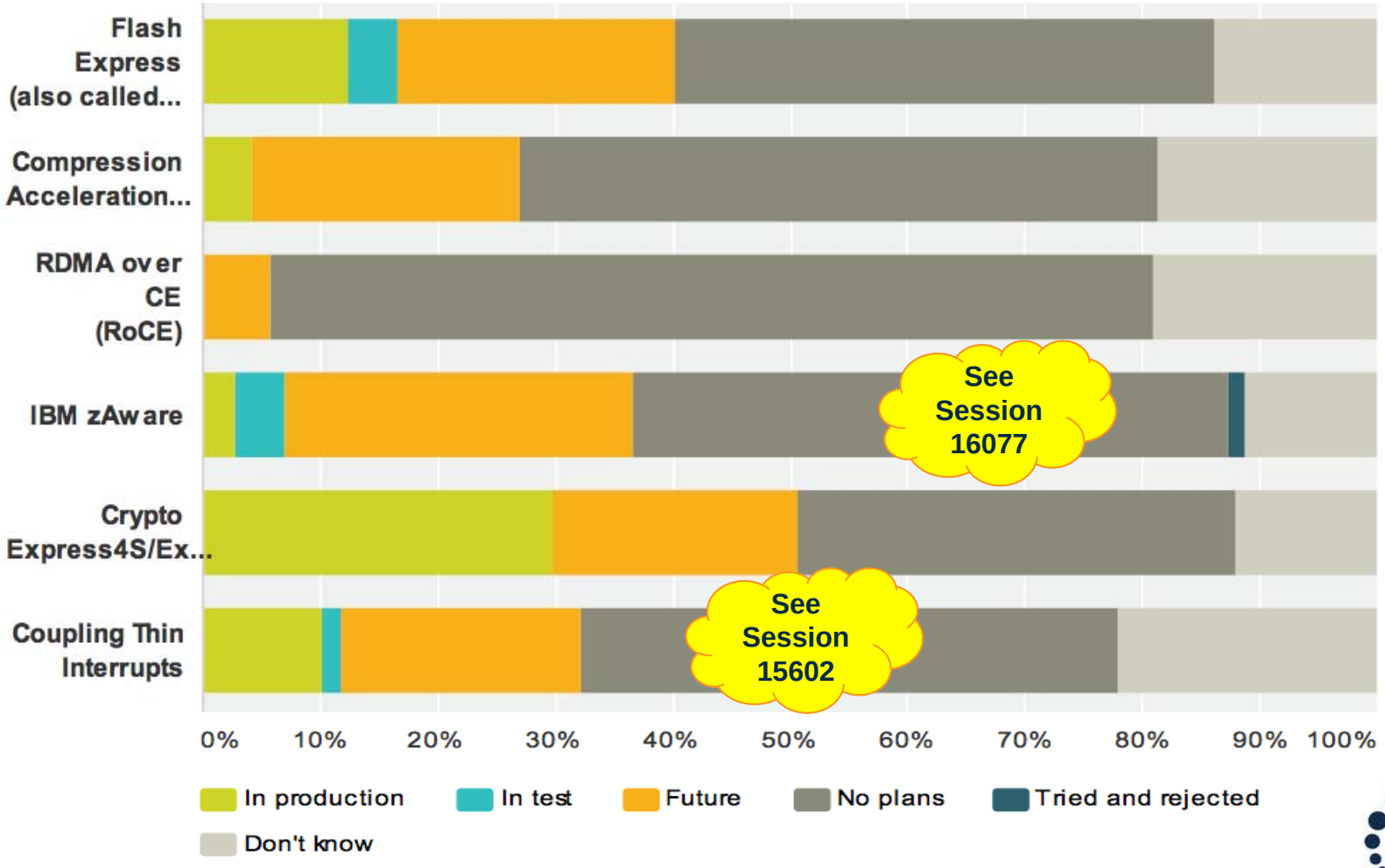


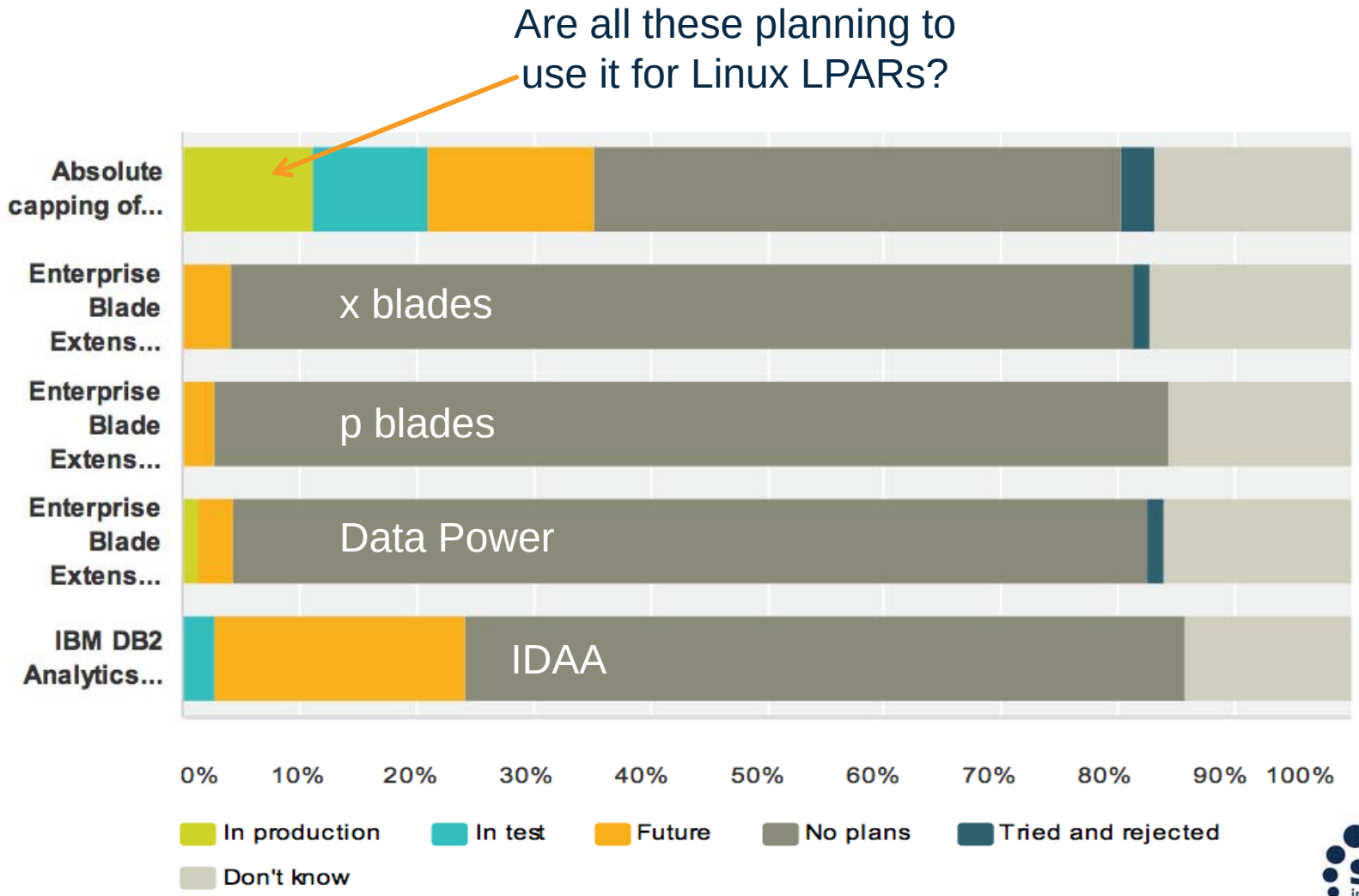
HW – Defined Capacity

- If you have not yet migrated off any FICON older than FICON 8S, you should have a plan in place. z/EC12 is last processor to support FICON Express 4.
- This is an example of the importance of monitoring IBM Statements of Directions (SOD) for planning accordingly – remember that upgrades to your CPC might be withdrawn from marketing long before you plan on replacing it.
- IBM's strategy is to move customer's to the latest Driver levels within about 6 months of their becoming generally available. MCLs will not be provided for the older Driver levels after that time. So make sure that you do not get too far behind with your CPC microcode levels.
- For those of you that don't use Defined Capacities – can I please turn it on on your system and you can give me the resulting software savings?

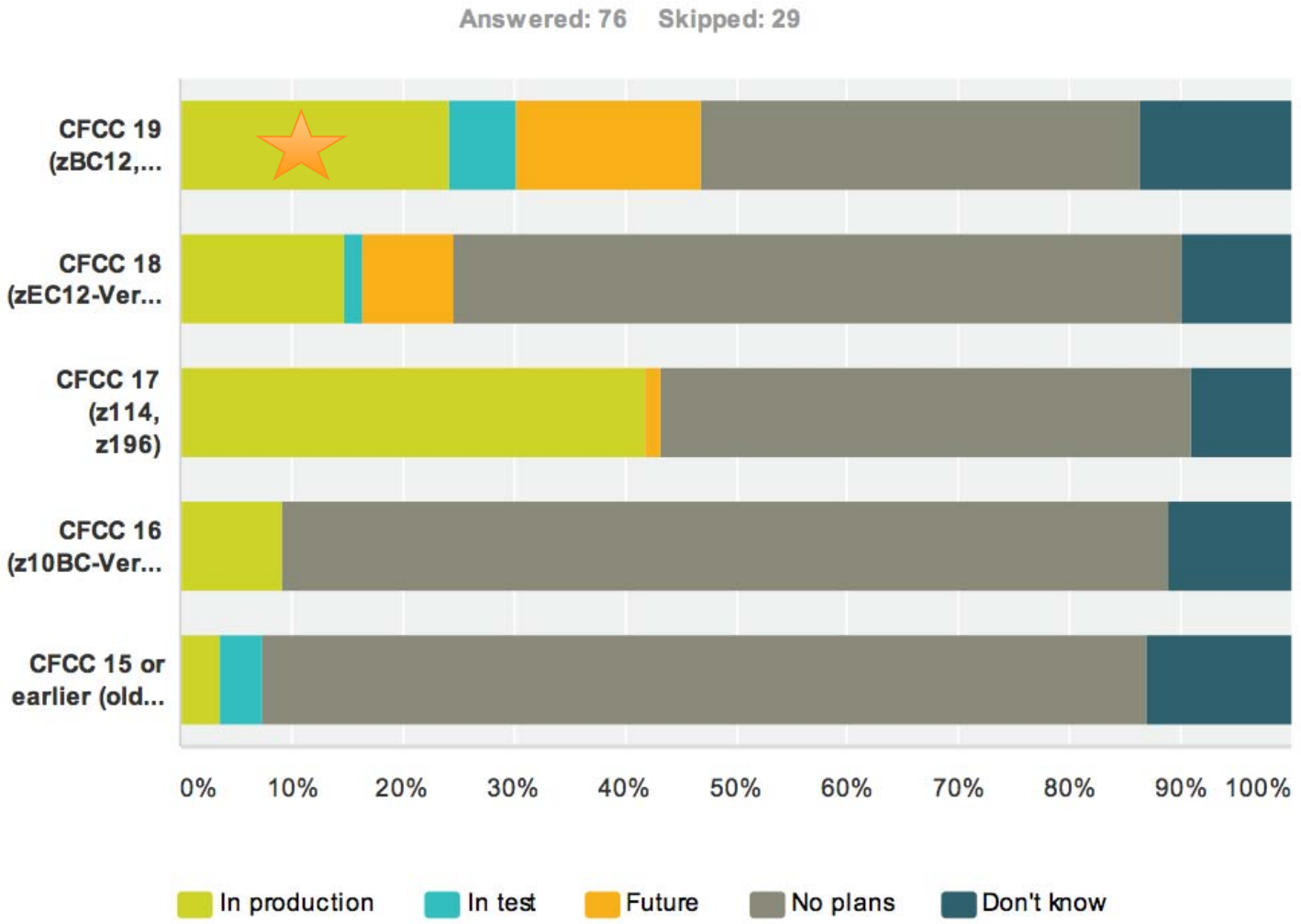
H/W – zBC12/zEC12 Features (1 of 2)



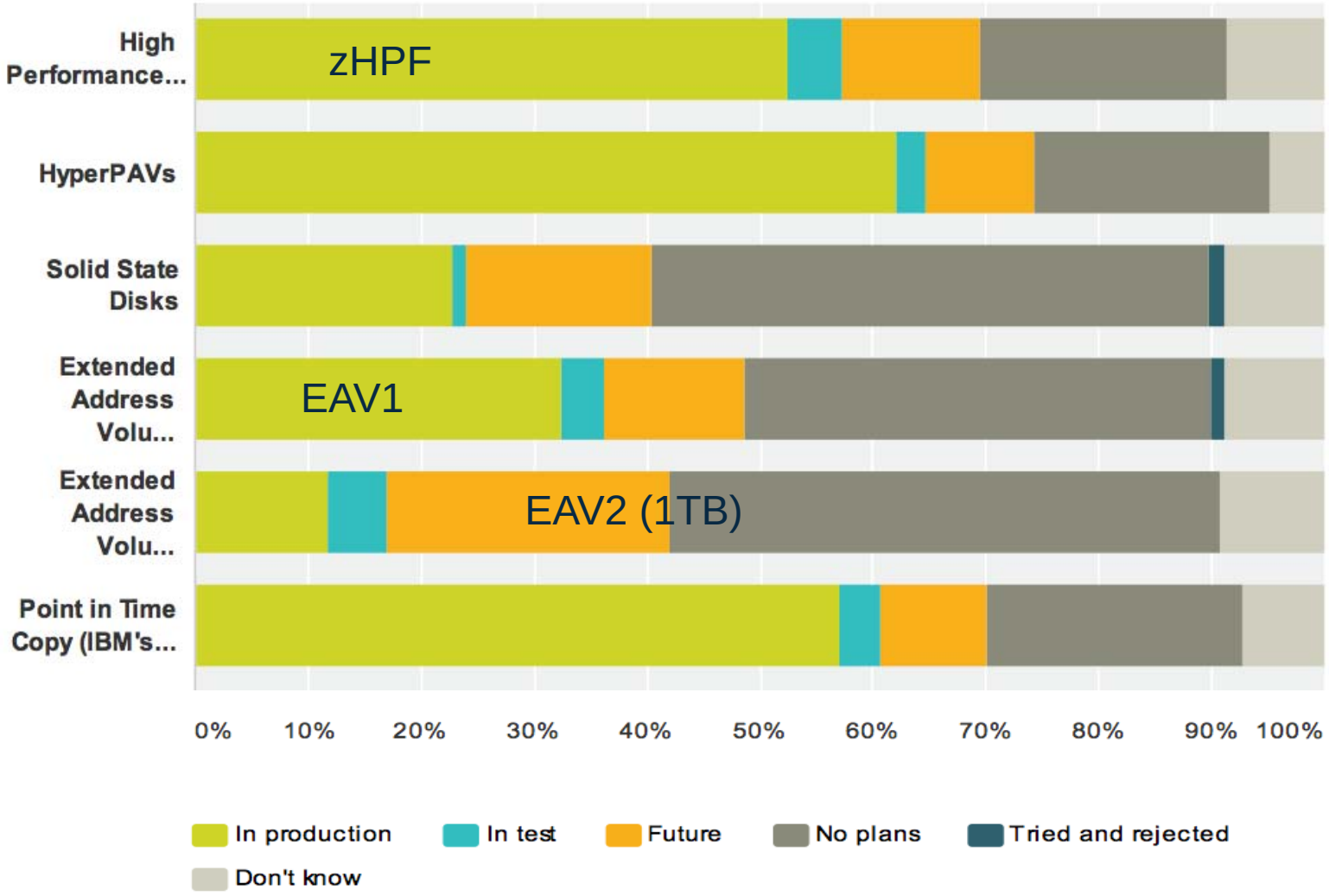
H/W – zBC12/zEC12 Features (2 of 2)



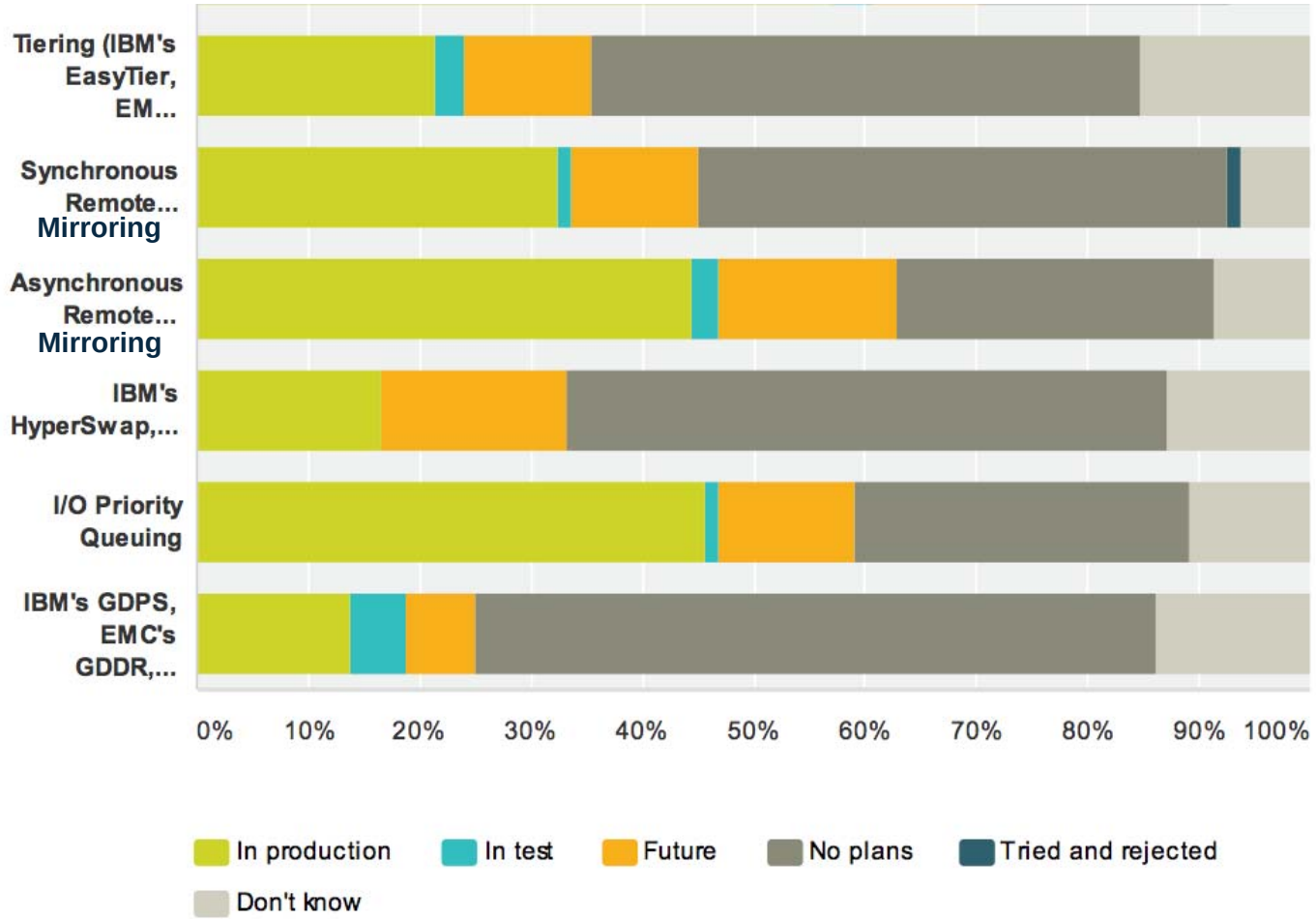
H/W – Level of CFCC



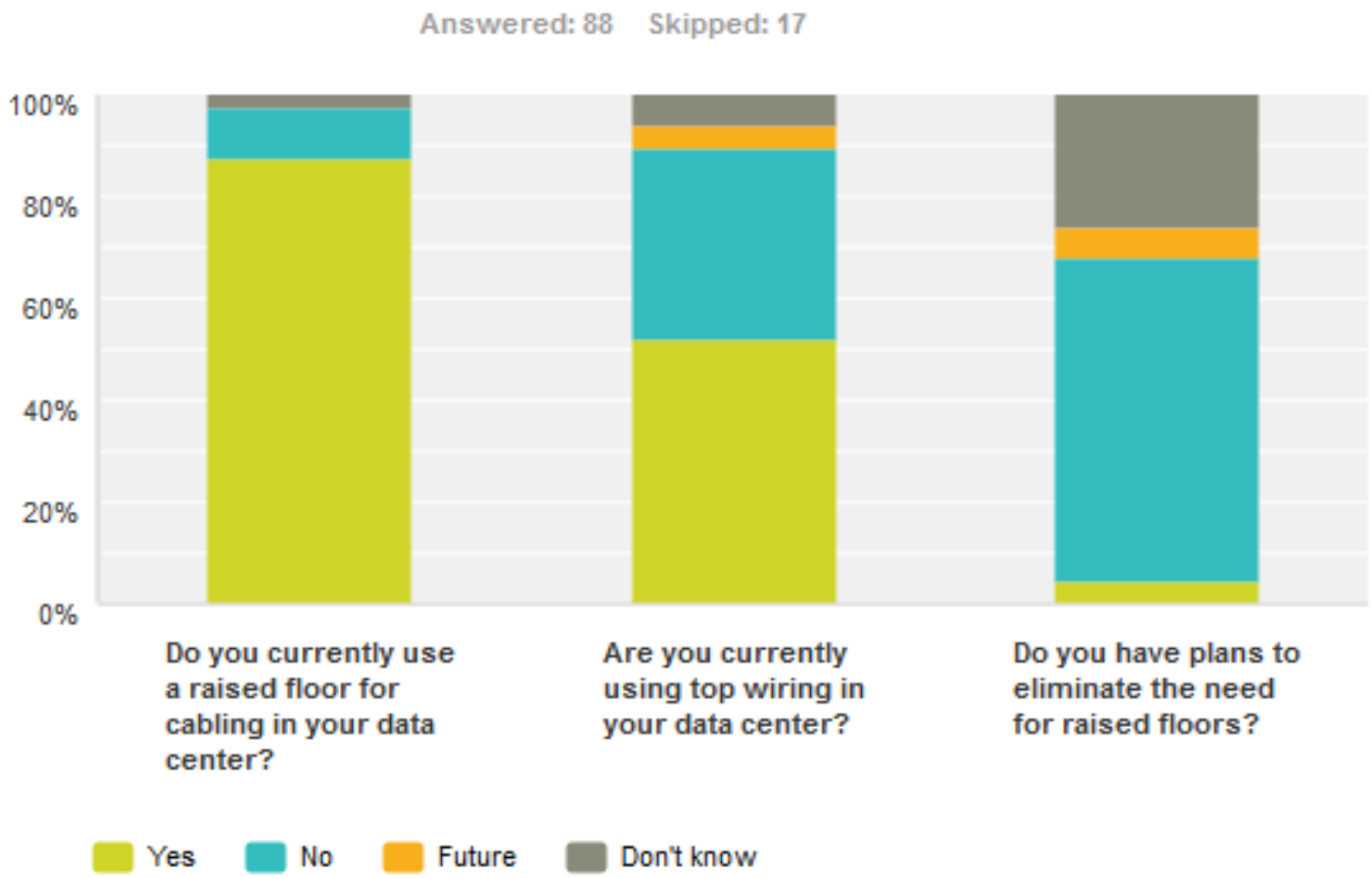
H/W – Storage Subsystem Features (1 of 2)



H/W – Storage Subsystem Features (2 of 2)



H/W – With respect to raised floor (1 of 2)



H/W – With respect to raised floor (2 of 2)

Comments if any
Normal cabling for our environment uses bottom feed for power and I/O. ! A new location for us requires bottom feed power but top feed I/O.
Raised floor at production center DR also has raised floor for cooling, but uses top wiring
Both top and floor cabling are used, depending on the vendor and model.
Don't think the rased floor is going away anytime soon. It is way too usefull. Even have it in the office building for the PC wiring.
See above comment
Severs use top wiring zOS under floor network both
Most cabling is top wiring now.
We have raised floor from way back. We completely rebuilt the datacenter, keeping the raised floor but ALL equipment is top wiring.
One DC requires I/O Top cabling but power remains under floor. Other 2 DC's have both Power and I/O under floor for the Mainframe.
We have raised floor from way back but a re-vamp has put top wiring for ALL devices.
We have both types of wiring. Some because the devices could only handle top wiring.

Agenda

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- Hardware Results
  - ☑ **Most Beneficial Hardware**
- Software Results
  - Most Beneficial Software

H/W - Most Beneficial Hardware (1 of 3)

DASD Flash Upgrade. CPU central storage upgrade. Additional CPU channel (Ficon8s/OSA) upgrade.
DASD, additional 3592-E05
ICF, ZAAP
HYPERPAV CF ZIIP
getting all CECs to the current generation. The stability of the platform increased, increasing availability.
zEDC
SSD, zEC12, IFL
zFlash Dasd Tiering HyperPAVs
Original EMC RAID (on third box now) z800-0B1 to z9-BC-L03
ESCON to FICON, z9BC to z10BC, EMC DMX to EMC VMX.
HiperDispatch, zHPF, zIIP
1. z9 to zBC12 2. ,HP XP1024 to HP9500, 3.STK silo to IBM TS7700
See above comment
ziips if the software can use memory if paging
migrate off z10 to z196 or EC12
1. Upgrade to current zHardware and take advantage of WLC software licensing.
Ficon express 8S, zIIP, additional memory
zIIP, EC12,zEDC
Luminex VTL replacing 3494
zIIP
ziip's InfiniBand Coupling Links Ficon Express 8S

H/W - Most Beneficial Hardware (2 of 3)

Solid State Storage EC12 Infiniband
hyperpav,scm,hyperdispatch
zIIP's
ZIIP,
Infiniband, zEC12, HyperPAV
1)replace older processors 2)OSA 3)AF printers
VTL, zIIP, FlashCopy
zEC12, virtual tape
Don't know
Z10 or EC12 for increased capacity
zBC12, zIIP
zEC12, FICON, MEMORY
zIIP, Memory, Flash or Solid state DASD.

H/W - Most Beneficial Hardware (3 of 3)

New SAN, New CEC
HiperPAV is cheap and works well. I don't know what else.
zEC12, IFLs, zAAP
zIIP engines and memory.
Memory. I/O bandwidth. Never recommend a CPU upgrade unless it's absolutely needed (software and maintenance upcharges are excessive)
CSTORE, CACHE memory, fastest channels.
zBC12 DS8700/8900 TS7700
New CEC Tape Mirror DASD Mirror
Main Storage zIIP
HyperPAV, HiperDispatch, PoinnInTime Copy
New Machine solid state disk

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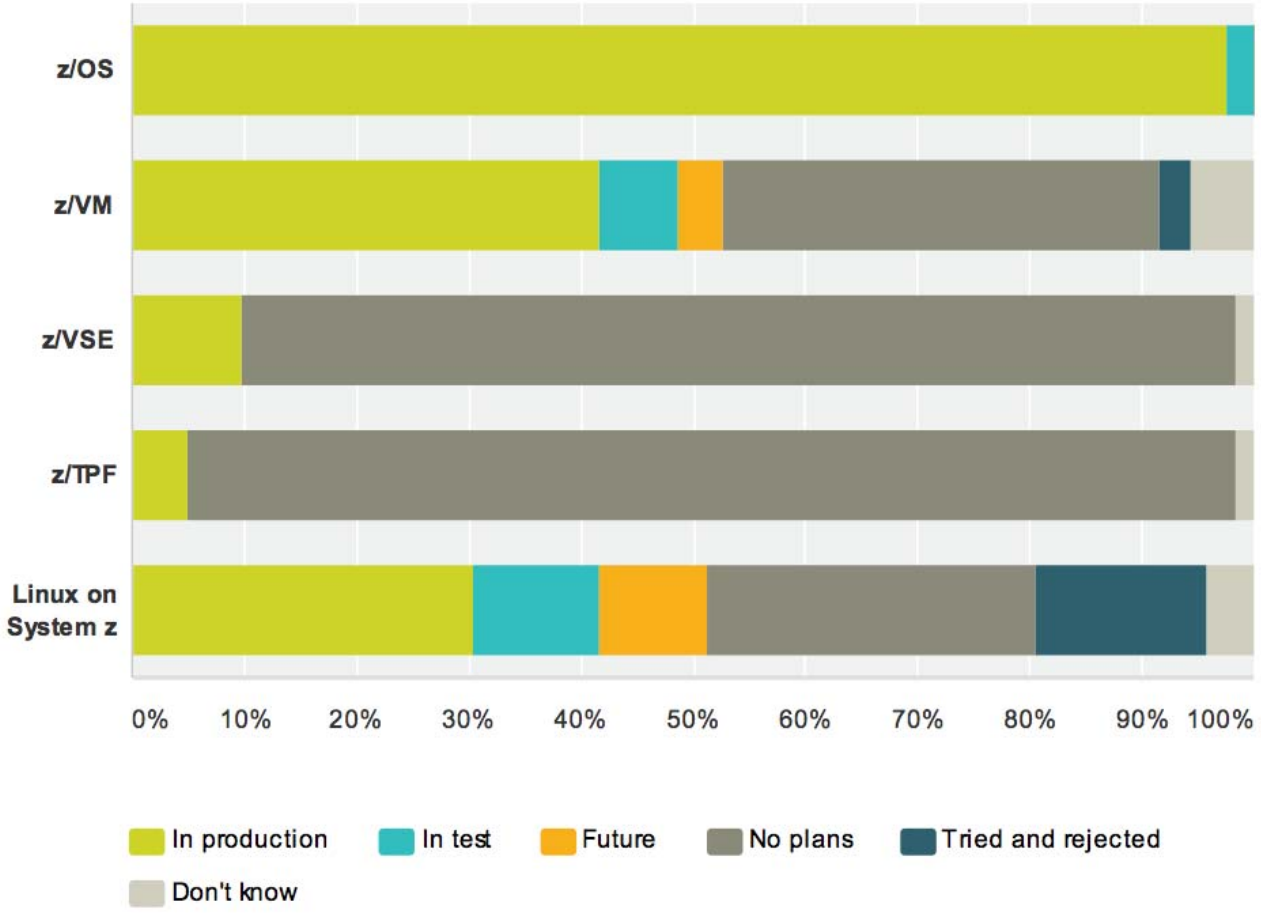
- ☑ **Software Results**
  - Most Beneficial Software

S/W – Status of Operating Systems (1 of 2)



S/W – Status of Operating Systems (2 of 2)

Linux on z was trialed but we lost the political war. Now only things running on Linux on Z are servers for the Mainframe team.
We will revisit Linux on z again in the future.
We tried Linux on System z under z/VM several years ago and our Open Systems folks rejected it. However, our managment structures have changed and we plan to pursue this route to replace Unix servers again.
We tried Linux on z as a pilot, but there wasn't any interest. We used to have a Novell environment and asked them about hosting it on our IFL, but even though Novell was a Linux distributor, they had technological reasons why their own code couldn't execute on an IFL, and had to stay on Intel.
trying to get some buy-in

S/W – What Type of Work on Linux? (1 of 3)

testing software
Testing - diagnostic tools. No production.f
See above
Not applicable
WAS DB2 Connect Tivoli Monitoring
Don't know It is only being tested
DB2 queries
Computer assisted publishing. We are planning for conversion of a large number of business applications from Solaris platforms.
Development/QA of Websphere apps, Omegamon TEPS. Proof of concept for future project.
N/A

S/W – What Type of Work on Linux? (2 of 3)

MQ Series, BPM/ODM
MQ and Com Manager
IBM Tivoli Monitoring
Software Development and testing
websphere, BPM, mainly mobile apps now
Not running IFL.
was, app offload
Work that could be run on p-Series
Front end of branch workers' application
Replacement of smaller servers

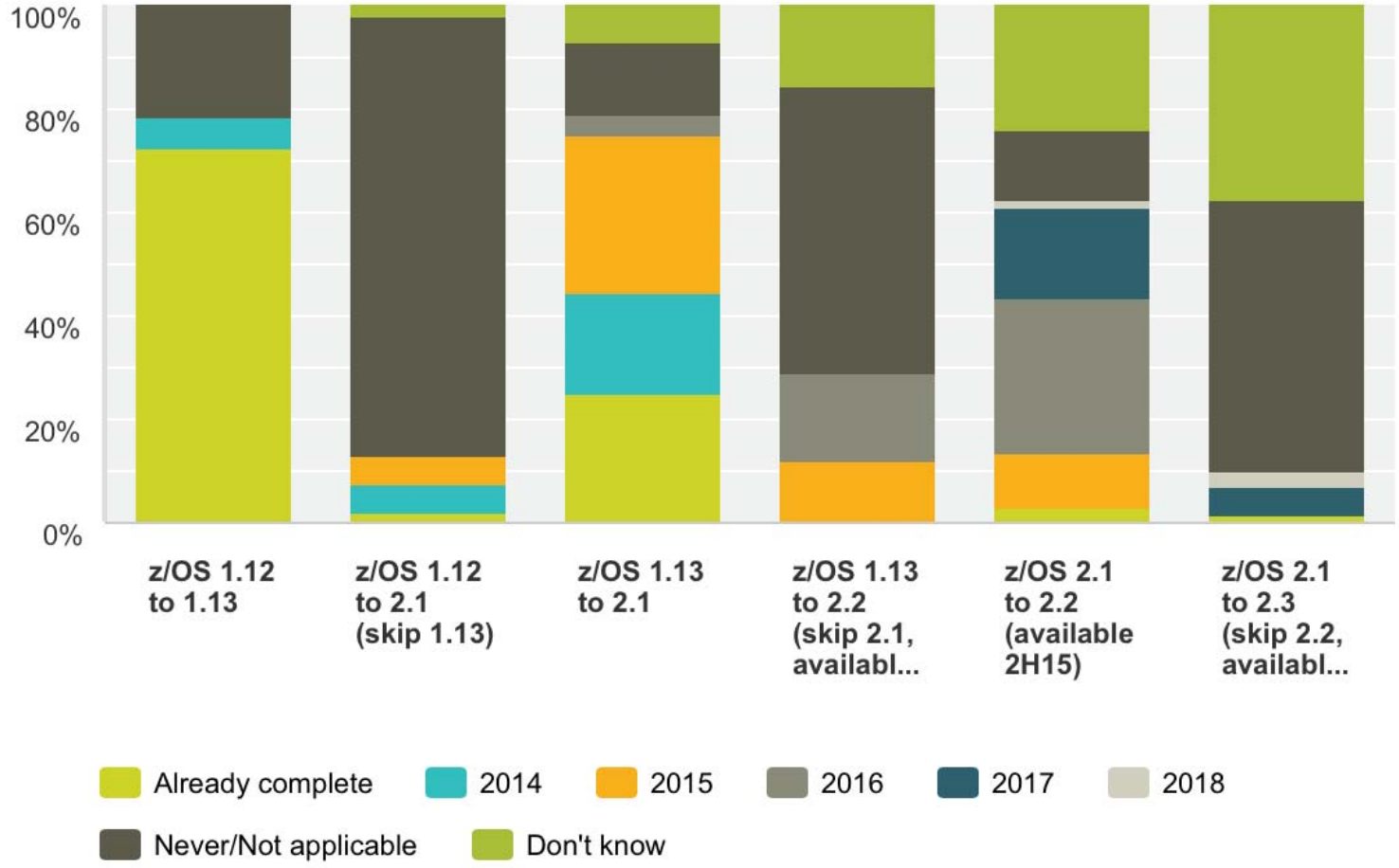
S/W – What Type of Work on Linux? (3 of 3)

Health insurance apps.
SUSE
Currently None. Political battles.
oracle DB
no prod use yet
Once used for SUF, no longer in use. We are contemplating reinstating it to run a mail server (existing external smart mailer is an unreliable Exchange instance).
MQ Hub/Broker Content Manager DB2 Gateway Netview NMS Netview Webapp Netview Management console ITM (IBM Tivoli Manager) ITIM
Projected to run MQ. Currently running some applications.
only z/OS support applications, like Tivoli monitoring
DB2 LUW, WebSphere, various.
z/TPF Development

S/W – When Is Next Upgrade? (1 of 3)

	Already complete	2014	2015	2016	2017	2018	Never/Not applicable	Don't know	Total
z/OS 1.12 to 1.13	72.46% 50	5.80% 4	0.00% 0	0.00% 0	0.00% 0	0.00% 0	21.74% 15	0.00% 0	69
z/OS 1.12 to 2.1 (skip 1.13)	1.85% 1	5.56% 3	5.56% 3	0.00% 0	0.00% 0	0.00% 0	85.19% 46	1.85% 1	54
z/OS 1.13 to 2.1	25.00% 18	19.44% 14	30.56% 22	4.17% 3	0.00% 0	0.00% 0	13.89% 10	6.94% 5	72
z/OS 1.13 to 2.2 (skip 2.1, available 2H15)	0.00% 0	0.00% 0	11.86% 7	16.95% 10	0.00% 0	0.00% 0	55.93% 33	15.25% 9	59
z/OS 2.1 to 2.2 (available 2H15)	2.99% 2	0.00% 0	10.45% 7	29.85% 20	17.91% 12	1.49% 1	13.43% 9	23.88% 16	67
z/OS 2.1 to 2.3 (skip 2.2, available approximately 2H17)	1.69% 1	0.00% 0	0.00% 0	0.00% 0	5.08% 3	3.39% 2	52.54% 31	37.29% 22	59

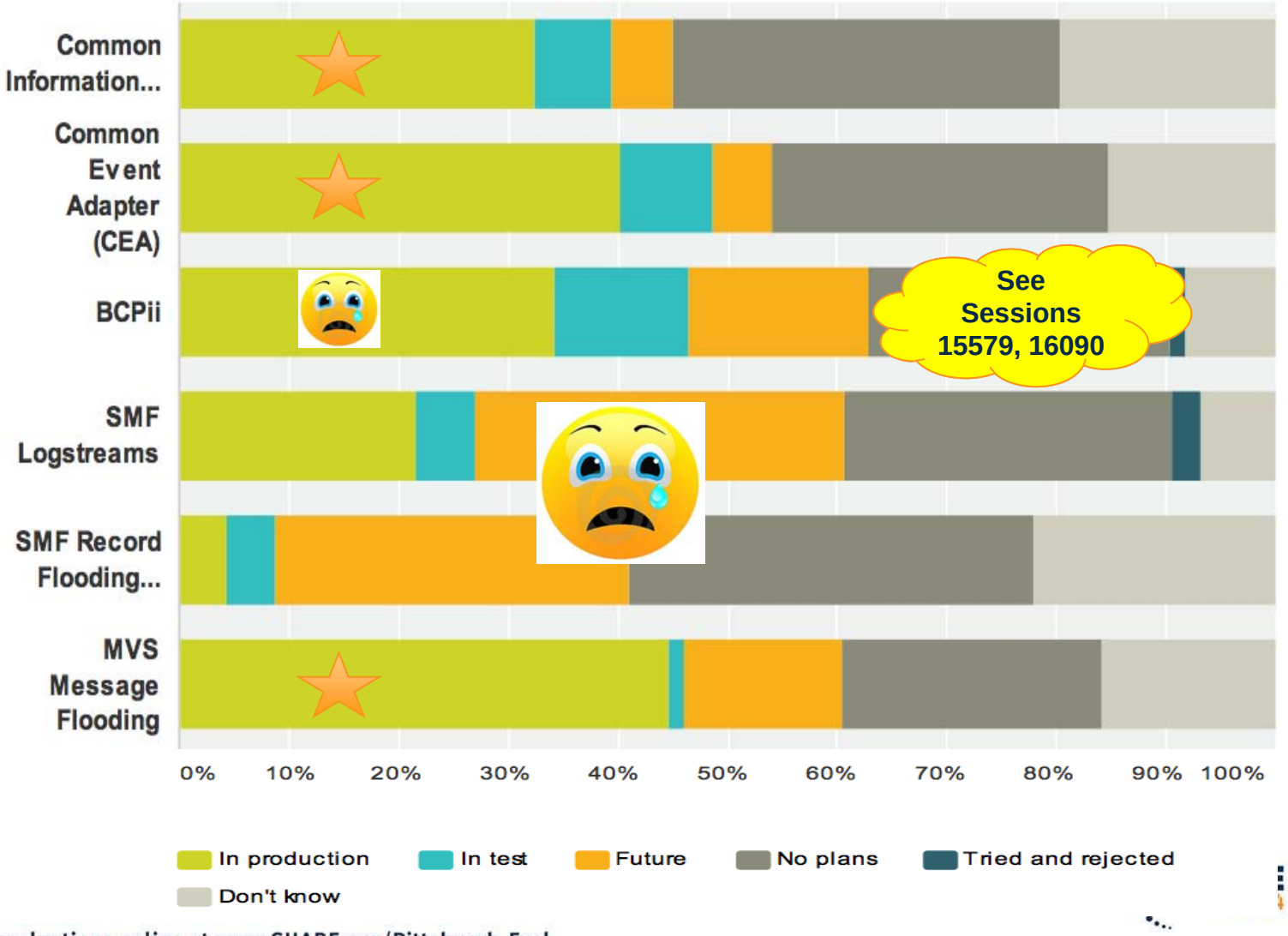
S/W – When Is Next Upgrade? (2 of 3)



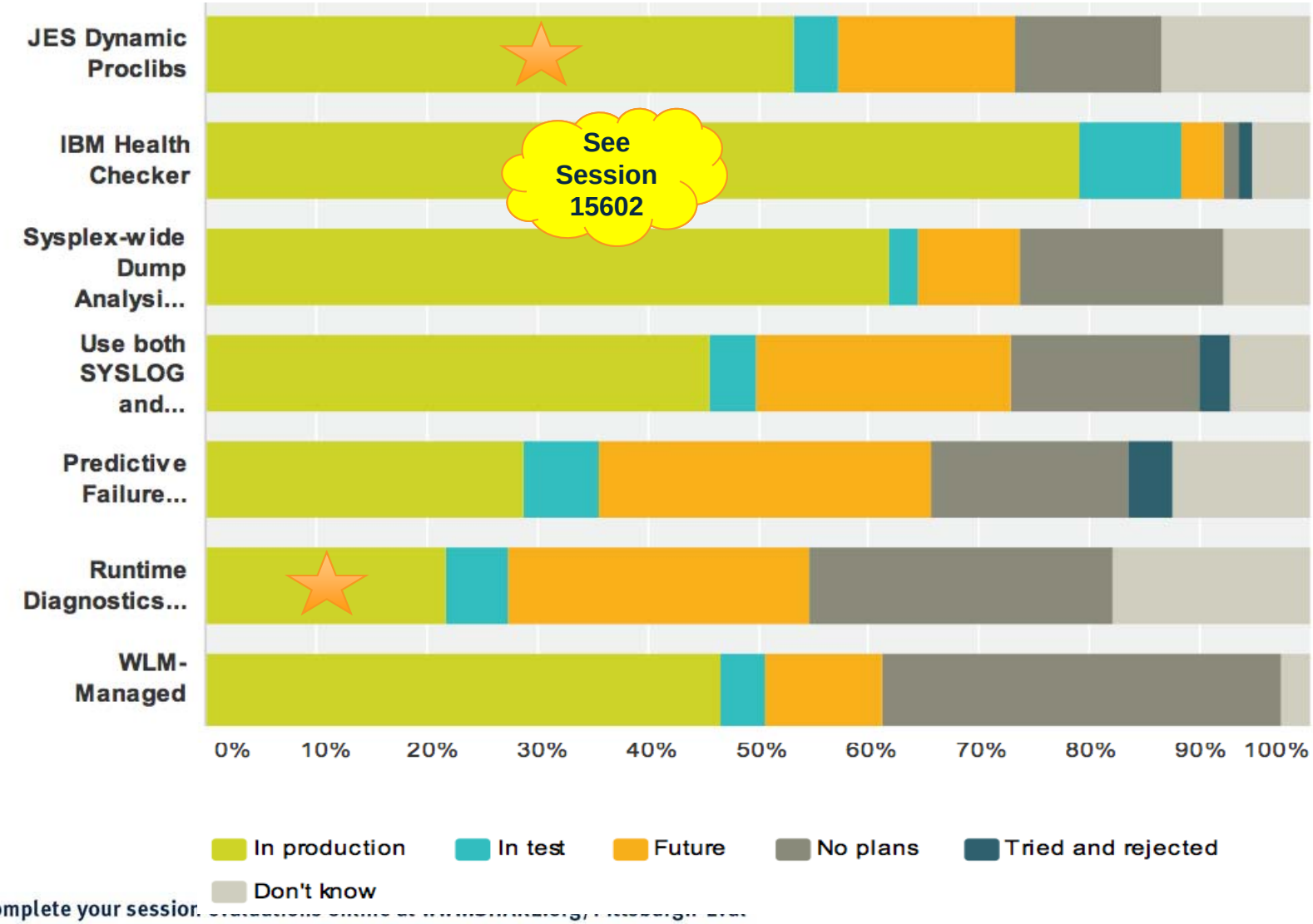
S/W – When Is Next Upgrade? (3 of 3)

just did 1.11 to 1.13
Our z/OS upgrades have lagged because it takes the ISVs at least a year to get their compatibility code available to us for installation, regardless of what they say for "same day support" of z/OS GA releases (even CA). I suspect that's why IBM changed their z/OS lifecycle to extend z/OS support. IBM's z/OS Lifecycle Extension offering was something we resisted for years, and in my opinion it was a "solution" to a problem IBM created. I've also seen IBM unable to keep up with its own z/OS features, such as XTIOT. When researching XTIOT, I discovered brand-new z/OS 1.13 & 2.1 APARs in February 2014 for z/OS components such as TRACE, and IBM products such as DB2. If IBM can't even keep up with its own features like XTIOT, how can a customer exploit them? My general opinion of the z/OS lifecycle is that it had been far too aggressive for most customers, ISVs, and even IBM to keep up with the pace. The extension of the z/OS release support is a welcome relief to that problem.
Have two separate sysplexes, thus the multiple upgrade plans.
There's a good chance that we will go from 2.1 to 2.2 and not skip a version, but that hasn't been finalized.
If our historical update trend continues...
z/OS 1.13 is rotating in a test LPAR awaiting productive use. z/OS 2.x may never be implemented here.
We migrate as soon as we see business value in the next/new release.
need a new machine - we are on a z800

S/W – Status of z/OS Features (1 of 8)

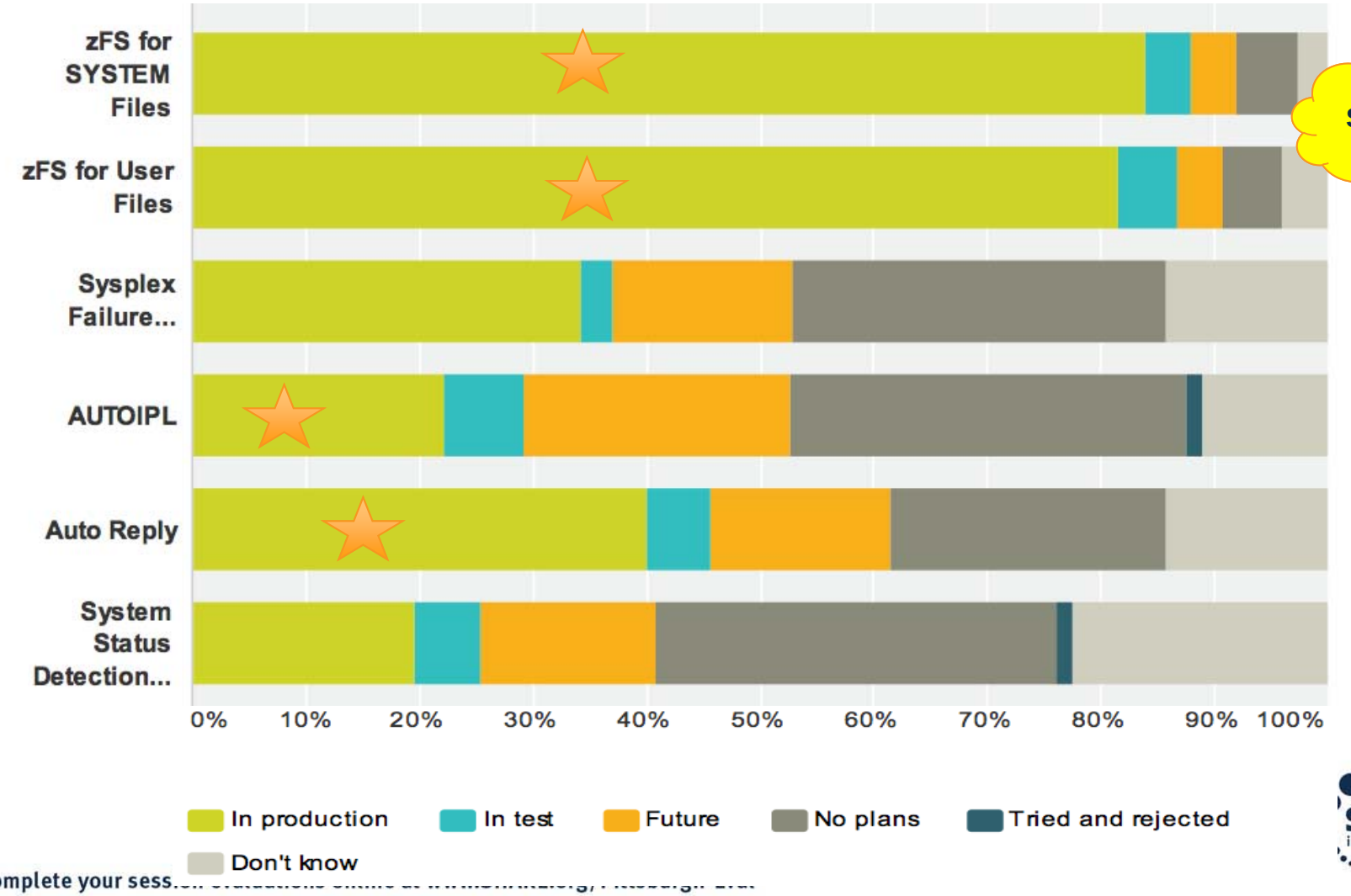


S/W – Status of z/OS Features (2 of 8)



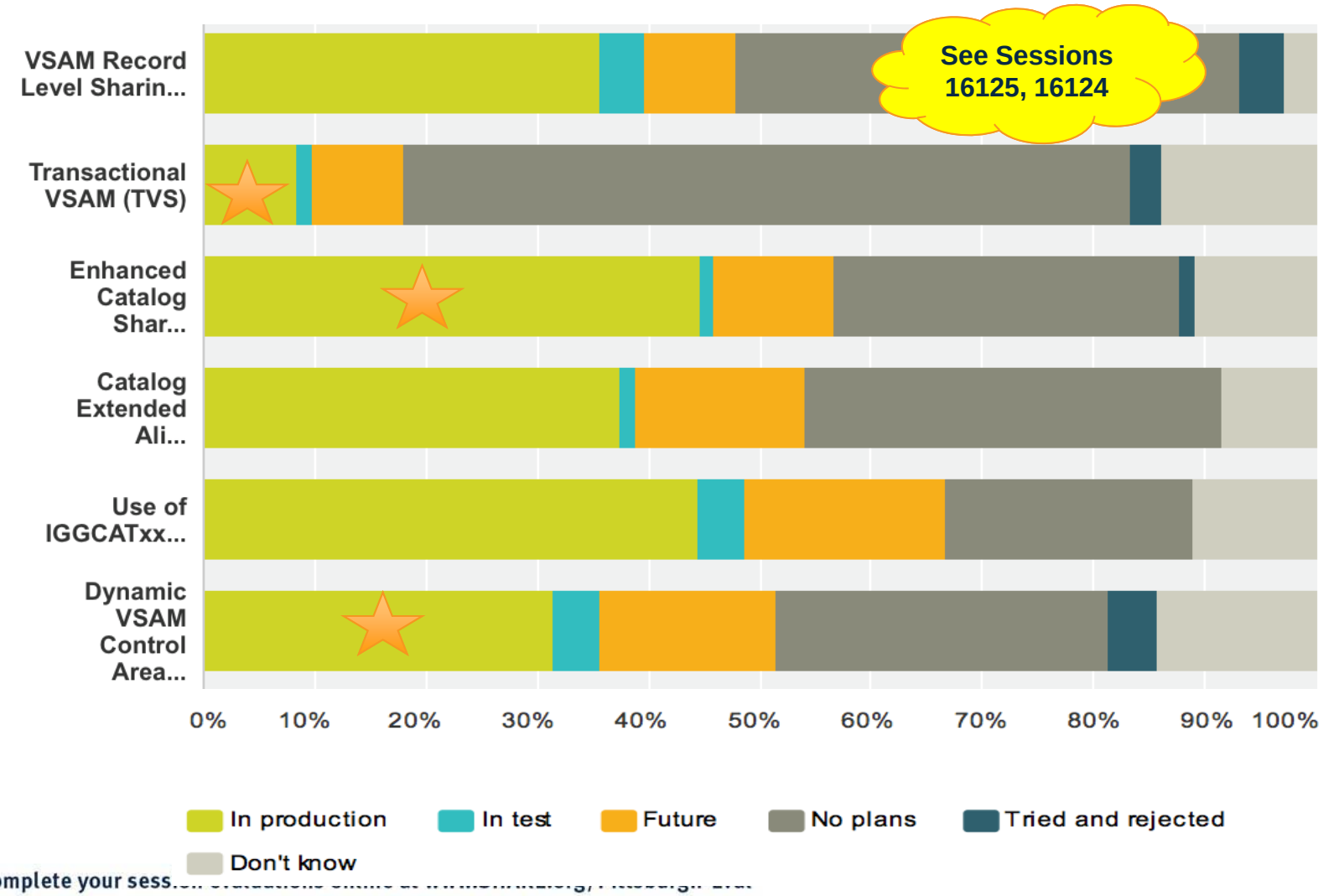
S/W – Status of z/OS Features (3 of 8)

S/W – Status of z/OS Features (4 of 8)



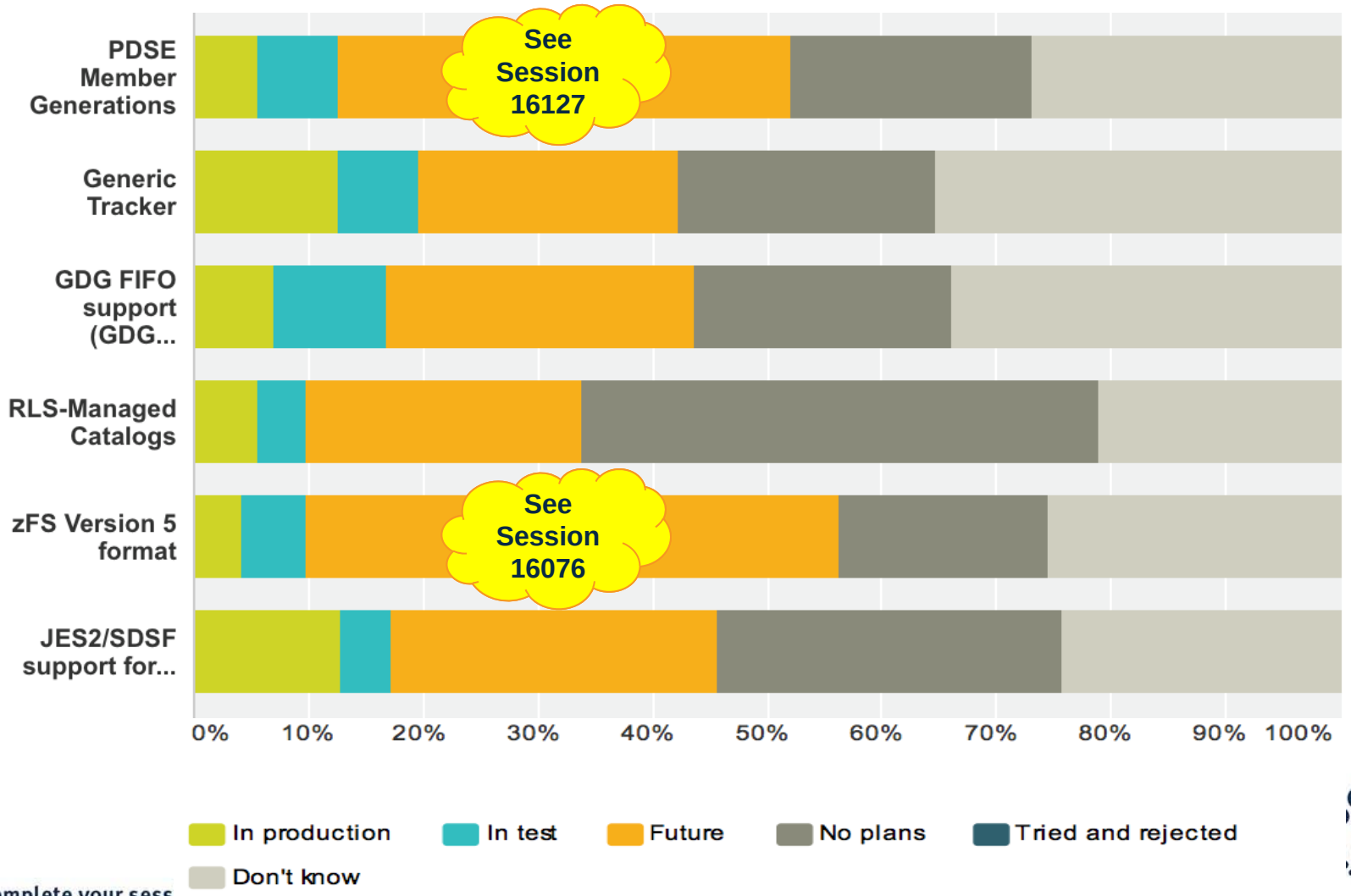
See Session 16076

S/W – Status of z/OS Features (5 of 8)

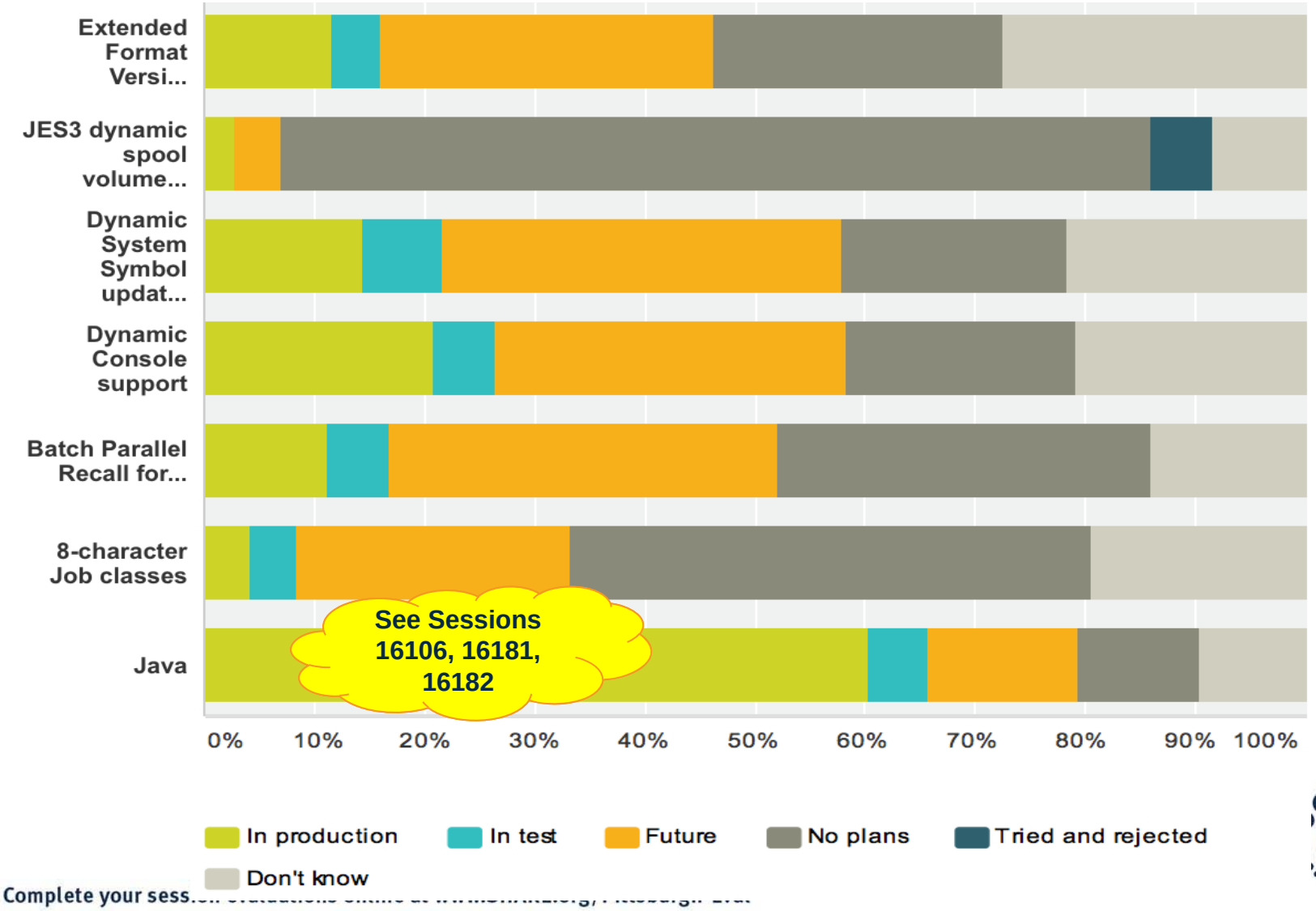


S/W – Status of z/OS Features (6 of 8)

S/W – Status of z/OS Features (7 of 8)

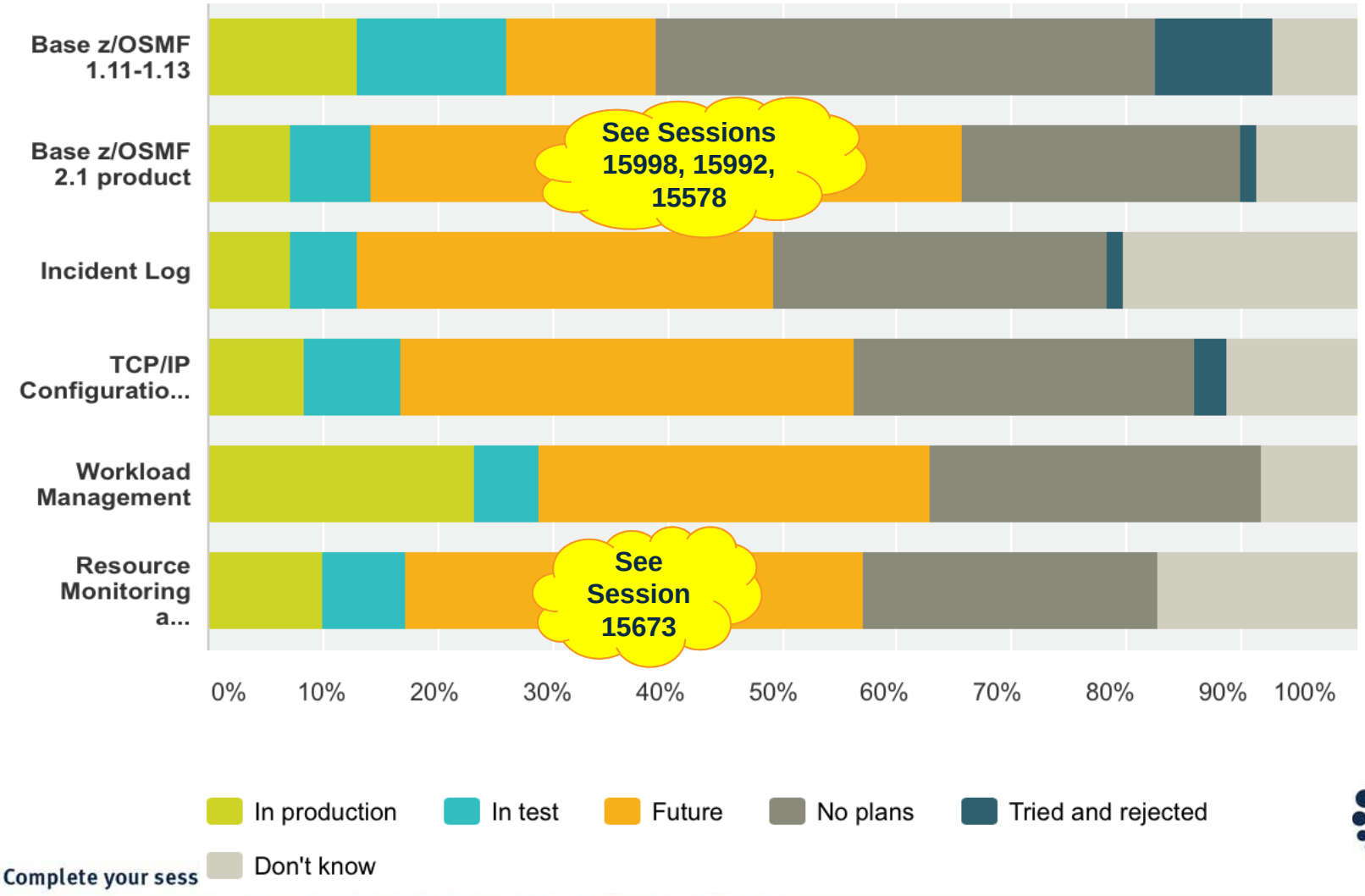


S/W – Status of z/OS Features (8 of 8)

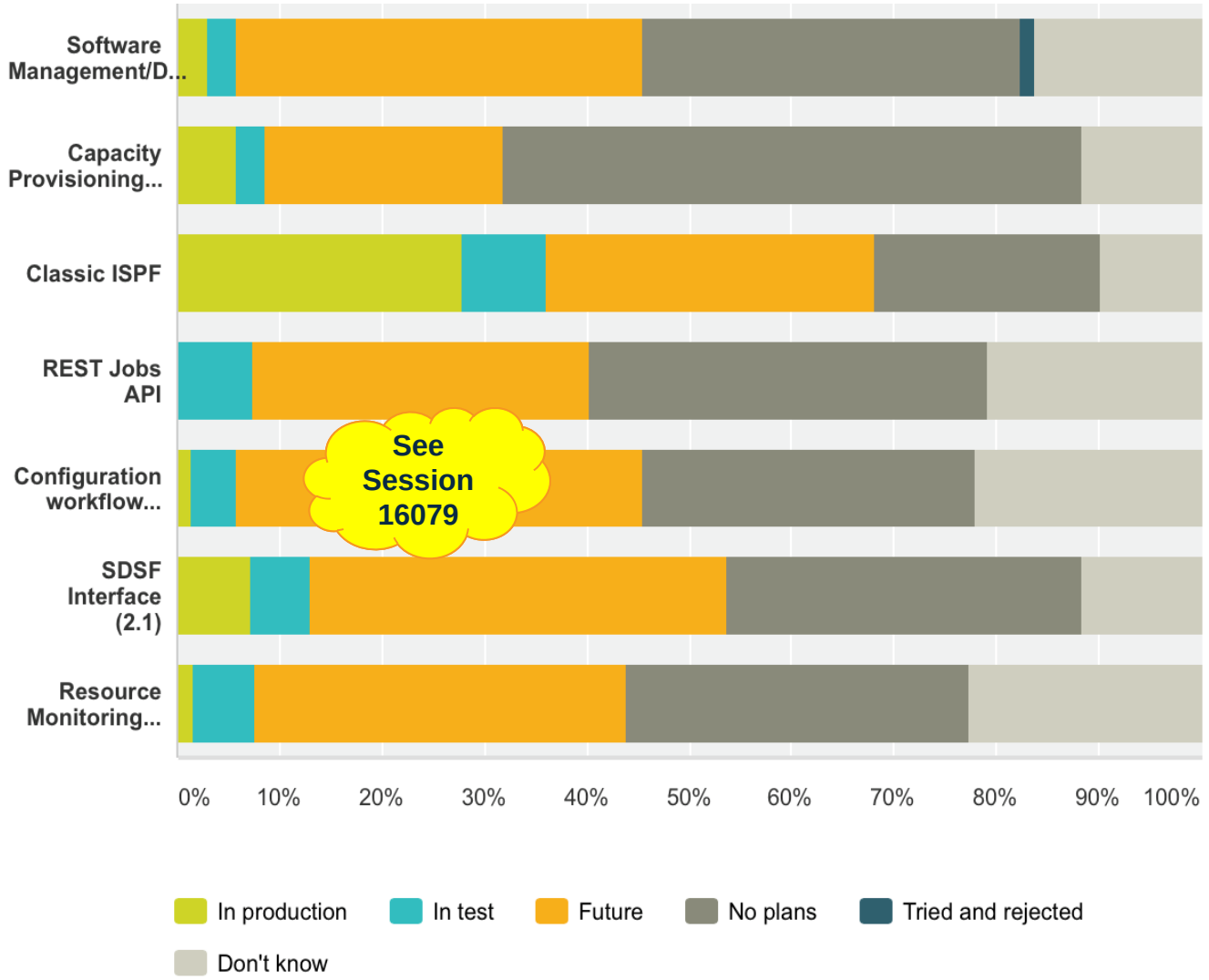


S/W – Status of z/OSMF (1 of 3)

See Glenn Anderson's Session 15724



S/W – Status of z/OSMF (2 of 3)



S/W – Status of z/OSMF (3 of 3)

I don't intend to use z/OSMF.
zOSMF pre-V2.1 requires way too much CPU! We'll see about V2.1, but I'm not betting on it.
z/OSMF has a reputation of being a resource hog. We might look at it after z/OS 2.1 is in production.
We don't use SDSF
much too resource-intensive to deploy here,
We'll make plans once we're further along with our testing. So far all we've done is bring it up.

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SHARE MVS Program Survey

I fear becoming dependent on this separate "product", then suddenly finding it reversioned and chargeable. Why isn't this part of the BCP?
Use EJES so SDSF not in use. Rest, I'm too new in shop to know.

S/W – Online Performance Monitors

- IBM RMF – 22
- IBM Omegamon – 22
- BMC MainView – 15
- ASG TMON for z/OS – 14
- SYSVIEW – 8
- Rocket Mainstar MXI – 2
- Plus many other products for subsystems (CICS, DB2, IDMS)

S/W – SMF Post Processors

- MXG – 21
- MICS – 8
- RMF – 7
- SAS – 5
- CMF – 4
- TDS – 4
- ITRM – 3
- Perfman – 3
- DFSORT – 2
- CA SMF Director – 2
- CICS PA - 2

S/W – Database Sharing

- **DB2 – 12**
- IMS – 3
- CICS TVS - 1

S/W – CICS Releases

- CICS 5.2 – 1
- **CICS 5.1 – 14**

- CICS 4.2 – 10
- CICS 41. – 4

- CICS 3.2 – 6
- CICS 3.1 – 3

- CICS 2.1 - 2

S/W – DB2 Releases

- DB2 11 – 3
- **DB2 10 – 40**
- DB2 9 – 6
- DB2 8 - 5

S/W – IMS Releases

- IMS V13 – 1
- **IMS V12 – 9**
- IMS V11 – 5
- IMS V10 – 3
- IMS V4 – 1 (???)

S/W – Sort Product

- Syncsort MXI – 36
- IBM DFSORT - 35

S/W – Data Management Products

- IBM DFSMS – 25
- IBM DFSMShsm – 21
- Innovation Data Processing - FDRABR – 12
- IBM DFSMSdss – 8
- IBM DFSMSrmm – 6
- CA-Allocate – 3
- CA-Disk – 3
- CA-Vantage – 2
- BMC SRM – 2
- IBM TDMF – 2
- Others mentioned once – VAM, DMS, DTS, TCP/R, StopX37, SRS, StorageTek ELS/VTS, CA-1, DPTECH, Data Accelerator, IAM, FDR Upstream, ABARS Manager, Zyzygy SyzMAN/z

Agenda

- The Survey
- Hardware Results
  - Most Beneficial Hardware
- Software Results
  - ☑ **Most Beneficial Software**

S/W – Most Beneficial Software (1 of 3)

TDMF. Syncsort.
SyncSort
z/OSMF, Hiperdispatch
z/OS MF, GDGORDER=FIFO, WLM Inits
SMS and DFHSM
z/OS 1.13 catalog alias relief
1MB pages, VSAM CA reclaim, GDG FIFO
MIgrate off CA (to RACF, VLF/LLA, TWS,RMM)
1. Health Checker 2. SMF Logstreams 3. VSAM CA reclaim
system rexx

S/W – Most Beneficial Software (2 of 3)

CA-ESP WA Enterprise Scheduler Serena Changeman ZMF MacKinney VTAM/Switch
CICS CICS support for Webservices CICS support for SOAP
DFSMS SMB DFSMS EAV Syncsort ZpCopy
FDRPAS FDR Upstream FDR Instant
rdz, z/osmf, android tablet for accessing books when away from z/os session and you get called
ZFS, BCPii, System Logger
SSDPP, BCPii and SFM JES2 dynamic proclibs Health Checker
System automation
PAV,ZHPF
CICS, COBOL, z/OS
Don't know

S/W – Most Beneficial Software (3 of 3)

V2.1, DB2 V11, LCS
health checker
We've been very pleased with the Innovation products, with MXG, and with McKinney's VVP and JQP.
z/OSMF enhancements, BCPii enhancements
Question is unclear - do you mean what products do I recommend? In that case I very much liked Innovation's FDRPAS.
IEASYMUP Dynamic Consoles HCD/HCM
java,
Hiperdispatch, Syncsort ZPCopy
CA Reclaim
ECS, dynamic system symbol updates, zFS
Image Focus (NewEra) QuikRef (ChicagoSoft) FileAid (CompuWare)

Complete your session evaluations online at www.SHARE.org/Pittsburgh-Eval

See you in Seattle!