Meet the New c-Class
Mark Potter

Hi.
I'm Mark Potter.

In this discussion,
I want to share with you –

• How the new HP BladeSystem was designed from the ground up to deliver a new vision for how IT infrastructures are built, maintained and adapted.

• How all of HP is investing in an Adaptive Infrastructure delivered with the new BladeSystem.

• How our unique innovations will leap-frog every other blade solution.
and
• how the innovations inside this new solution were designed specifically
to address
the biggest cost drivers and
change barriers for you,
our customers.

The fundamental goals of business never change...
the ability:

• to lower costs and raise productivity.

• To deliver innovative products and services to customers faster.

• To stand out in a crowded marketplace.

• And of course,
to be profitable.

Now more than ever,
a company's IT infrastructure forms the foundation for the difference between leadership and mediocrity.

But too often,
the technology that should accelerate success simply gets in the way.

It might surprise you,
but the businesses that use IT most effectively

often spend far less on infrastructure than their competitors.

Why is that?

The answer is because they get more value out of what they spend.

They have infrastructures that we describe as
“best-run”.
Meaning they run IT with high levels of productivity,
at low operational costs,
high utilization and
extreme flexibility –
all aimed at delivering superior service quality
to their end-users.

Unfortunately,
the only thing keeping the rest of the world from having a best-run infrastructure is that too many continue to build IT in the same “racked, stacked and wired” way.

In almost all cases,
the common costs and limitations of an infrastructure go back to
• the way it’s built,
• the silos it creates
• and the inefficient management processes behind it.

When we considered the next-generation datacenter and set out to design the new BladeSystem -
we took a step back
and said –

"what should tomorrow’s infrastructure really look like."

"What are the real IT and infrastructure problems that keep our customers
up at night –
that waste time –
that make change hard –
that make power and cooling difficult to deal with."

HP gave our engineers a clean slate and total freedom to deliver their very best with these issues in mind.

1. First, we laid out our vision for the future of blades – where we believe everything can be bladed.

Second, we said –
design this solution
for any work load,
anytime.

We designed
for
• storage blades,
• client and workstation blades,
• server blades,
• scale-up or scale-out solutions
and
• fully virtualized environments.

Next,
It was critical that we make it work with the same tools and with the same standards
in your datacenters today.

And finally,
• make it cheaper
to own by 25%,–
• cutting process and maintenance time
by up to 90%
• easier to change
with fewer people,
• take up less space
• and use up to 30%
less power and cooling
without sacrificing any availability and performance.

Along the way,
we gathered feedback from 5 years of blade customers to find out what you really wanted
in order to go
to the next level.

We worked hand in hand
with our customers and
spent real time listening
to their biggest headaches and concerns
about the future.

In 2005,
HP invested
over 3.4 Billion dollars
in R&D.

We tapped into the innovations and knowledge from the most successful product lines across HP to help.

From NonStop to Superdome;
ProLiant to StorageWorks and OpenView even printers and copiers,
we left no stone unturned.

Now, let's walk through
from the ground up
and see how it came together.
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[move to black box on the table]

First, our customers said make it consolidated
from the start –
out of the box to lower the \\[cost to buy upfront and to]cost to buy upfront and to simplify how an infrastructure is built, run and maintained.

So we put all the elements of the modern datacenter – power, cooling, connectivity, redundancy, security, compute, and storage.

Think of it as an advanced datacenter in a 17" box.

Then we made it modular
so you add what you want and intelligent enough so you never use more than you need.

• By sharing and pooling resources and eliminating others – it delivers 40% space savings, +95% cable reduction, and is 25% less costly upfront.

Next -
our customers wanted a simplified and unified way to manage an infrastructure, end to end.

So we looked at some of the best technology for simple management at HP.

So we pulled from 2 places – our OpenView and System Insight Manager suites – and our imaging and printing group.

On most HP printers and copiers today we have an interactive, LCD screen that helps with fast step up and quick fixes of problems.
Like when a paper jam happens or the cartridge needs more ink.

The LCD not only tells you the problem it helps you fix it.
We asked “why can’t your infrastructure do the same thing?”
So we created the Onboard
Administrator using that technology.

• Inside each BladeSystem are literally thousands of points of instrumentation, control and data collection 24x7, every second across every connection, all power and cooling, health and performance – out of the box
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[Velcro side front cut outs on the box]

• Then we gave secure access to all that data at your fingertips in a brilliantly simple way through the Onboard Administrator.

• [Velcro LCD cut out on front of the box], with this, and more full-featured modules in the back for more advanced system administrator tasks,

[Velcro OA modules cut out on the back of the box],

customers can configure that infrastructure and up to 64 servers in 15 minutes or less.

• With this built in, our customers can finish many common tasks in one tenth to one hundredth of the time such as loading OS and apps or recovering from a failure.

• Then, for unified infrastructure management, we integrated a new toolset called HP Insight Control – Datacenter Edition.

• Available with each enclosure, it puts all the infrastructure management tools into one solution –
one install for advanced provisioning, recovery, and patching.

• [Put a CD in the box]
It too has simple, graphical interfaces for total control and streamlined operations across virtual or physical environments for provisioning, monitoring, and server failover.

• And it’s expandable with ProLiant, Integrity and Storage Essentials, and OpenView.

The difference from other blades is that they give you a 1000 blinking lights and LED’s – we give you words, pictures and an interactive wizard to help you setup, diagnose and maintain it all quickly and simply.

Their tools make you do the integration yourself and often are unique just to blades.

We bring it all together –
and optimize it for blades – but you can still use the same tools to manage the rest of your environment in the same way.
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Customers asked us
to help them understand the power and cooling problem and give them tools to reduce the power they use without compromising performance.

You can't manage
what you can't monitor.

So we created HP Thermal Logic technologies to give customers real insight into the power and cooling in real-time, right out of the box.

What it does is
actively monitor and automatically adapt power load and cooling capacity based on changes in demand and environment to ensure the highest energy efficiency, redundancy and scalability of power and cooling.

This technology also pools and shares power and cooling as a resource that:

• Consolidates tremendous power capacity that adapts and optimizes itself to the most efficient level
for any solution,
regardless of workload or component inside –
so that anything you put in this box is ALWAYS more cost-effective to power.

• Up to 33% less power usage vs. rack-mount.
• Out of the box.

(Velcro power cut outs on the front/back of the box)

• Includes
more cooling capacity, monitoring and control– enough investment protection and air-cooling for the most demanding loads --
out of the box –
that adapts regardless of the performance and density you can throw at it.

• (Velcro cut out of fans on the back of the box)

The key features are:
• Instant thermal monitoring for real-time heat, power, and cooling data at a system and rack level
• active Cool fans to optimize airflow, acoustics, and performance while delivering more airflow with less power vs. traditional technology

• PARSEC architecture for parallel, redundant, scalable airflow design to deliver cooling where it's needed most – automatically.

• Dynamic Power Saver to shift power load for max efficiency and reliability

• iLO controlled speed stepping to regulate power consumption

• Pooled power for N+N power redundancy
and

• Virtualization to maximize performance/watt

The difference from other blades is that they simply add more power supplies or more fans – we give you the insight and the tools to actually
use less of both.
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Finally, our customers
wanted throughput and reliability for the long term.

No one is better in the world at high-availability than our NonStop server group and no one is better at high performance systems than the Superdome server team.

We brought both of them in
to help us create
the Virtual Connect architecture.

• The midplane
has the potential to provide up to 5 terabits per second of aggregate bandwidth
across the system –
this is the equivalent
of up to 160 Gbps
to each bay.

• We can't use
all of that today –
but we're planning
for a big future of what
you can do
with blades down the road.

• It also ensures redundancy for every component and connection inside it
for no-single-point-of-failure -
out of the box.

• [Put midplane in the box]

• Then to connect to the rest of the datacenter,
we provide 8 identical interconnect bays to connect in whatever way
customers want.

• We provide options
from Cisco, Brocade, Mellanox and BNT –
formerly Nortel.

• [Velcro cut out on the box]

One of the biggest barriers to change in the typical datacenter is the manual coordination required across multiple groups to synchronize internal processes.

The hard-wired, siloed and static design of IT infrastructures forces manual, 1 to 1 IT practices.

Ultimately, process speed often depends on how many people touch it – and the lag time between steps.

A 30 minute task
isn't done in 30 minutes,
if multiple people
and 3 days are needed
to schedule and initiate it.

Taking advantage of the capability of the Virtual Connect architecture,
we will also deliver
a breakthrough approach to connect servers
to the LAN and SAN
that simplifies operations between domains
and
eliminates barriers
to change.

With Ethernet and
Fibre Channel
Virtual Connect modules
we can simplify and
virtualize LAN and SAN connections to servers.

These modules
cleanly separate the server/LAN/SAN domains
to reduce cables
and allow admins to add, move, and replace
servers quickly
without affecting
LANs or SANs.

The key features of the Virtual Connect modules are:

• Up to four enclosures
can appear as one server domain to LANs and SANs.

• Maintains end-to-end connections through switches of your choice
in the data center -
Cisco, Nortel, Brocade, etc.

• Relieves
LAN and SAN admins
from daily and routine server maintenance so
you can change
on the businesses' schedule.

• Logical MAC and WWN
are locally administered inside the modules
so LAN and SAN connections stay constant
without rewiring.

• Reduces cabling up
to 95% vs. traditional servers and without adding switches to manage or create
new FC domains.

• One cable for LAN –
one cable for SAN

and

• One more for each
for full redundancy.

A BladeSystem not only consolidates a datacenter in a box, it delivers the best run infrastructure out of the box.

(Pause)

And how we fill it up – depends of the solution our customers require.

We're Blade-nostic.

(pick up blade images)

Storage blades,
Integrity blades,
ProLiant blades,
PC blades, workstation blades – creating an unlimited number of possibilities for businesses – from new paradigms for modular storage solutions to new paradigms for modular scale-up and scale-out solutions – to virtual PC and workstation solutions.

But regardless of what we put in or what solution we build on top it – the BladeSystem ensures it's always best-run – meaning more cost-savvy, change-ready, energy-thrifty and time-smart than any other infrastructure supporting business.