The ZEN of
Guaranteed Application
Performance

ipanema
Technologies

The Frustration Factor…
or Secret to the Great
Workplace

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A Series from Ipanema Technologies: *Volume 2*

In this second volume of our four-part series, we dive into our second hypothesis: Poor application performance has a direct impact on emotional health, job satisfaction and productivity, with bottom-line ramifications. When business applications, which companies value and invest in the most, aren't running as they should, employees are frustrated, inefficient and less productive. But relax, we also provide an alternative course – of guaranteed application performance – so that your story can have a happy ending.

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Frustration: (noun) - A feeling of dissatisfaction, often accompanied by anxiety or depression, resulting from unfulfilled needs or unresolved problems.

Which is closer to your everyday?

You log in to your company's system from a mountain retreat in Interlaken. You check the application performance dashboard, which shows that all systems are green.

Your scheduled videoconference with colleagues in Singapore and Mumbai starts on time, with all present and without a hitch, as you present the 9.75 out of 10 satisfaction ratings from your user community on the new customer training self-service video series.

You check your emails at the close of the session: the first is a thank you tweet from Joseph in marketing for the flawless technical performance on last week's real-time, virtual customer conference, attended by 10,000 people. The second is from your boss, which includes the CFO's last board presentation in which your team is recognized for improving the productivity of the company's call center, thanks to guaranteed response times. You go make yourself a French press and enjoy the view.

OR

You log in from the airport hotel in Cleveland. You field 20 complaint tickets from users on Google apps crashes – a chronic problem for which you have no clear cause.

Your videoconference with the sales and training teams – hastily scheduled to capture "lessons learned" from the disastrous roll out of the new cloud CRM app – goes poorly. Technically, there's constant jitter, so you're only hearing every third word. Substantively, the field refuses to use the app because of the constant hang-ups in entering data – a problem for which you have no definitive answers.
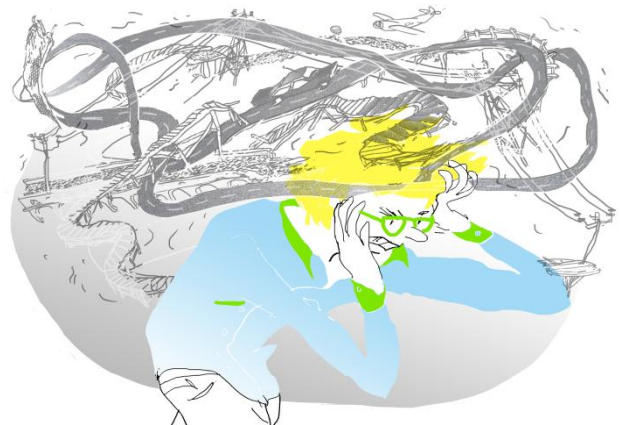
After a heavy sigh, you complete the final draft of your request to the CFO for a 20% (unanticipated) increase in network services budget to compensate for the slow performance – hoping that will mask the issue. You crack open a "Red Bull," and catch your flight.

While help is on the way (keep reading), let's look at the real impact of this application performance frustration on the three pillars of everyday work – productivity, morale and profitability. This document is chock full of facts to build the business case for change – and ultimately guarantee application performance.

Emotional health: It's means more to you and your business than just "Ommmm."

According to the American Psychological Association, 36% of employees report feelings of stress during a typical workday.[i] Given the always-on, always-connected business environment, IT frustration is a significant contributor to everyday stress.

In an oft-cited academic study on the impact of technology frustration in the workplace conducted by researchers at Towson University in the US, participants recorded strong emotional reactions to IT frustration, ranging from feeling angry at the computer, feeling helpless or resigned, and even angry at themselves[ii] (perhaps those participants were IT staff!). Other research has tied computer frustration to an increase in blood pressure.[iii] The domino effect of frustration includes abandoned goals, increased absenteeism and higher employee turnover.

Computer rage is growing, affecting virtually everyone. A 2011 survey of UK office workers commissioned by Bomgar showed that 93% of employees admit they have shouted or screamed after suffering IT problems in the workplace. That rage has a ripple effect, with 30% confessing to taking that frustration out on customers or colleagues.[iv]
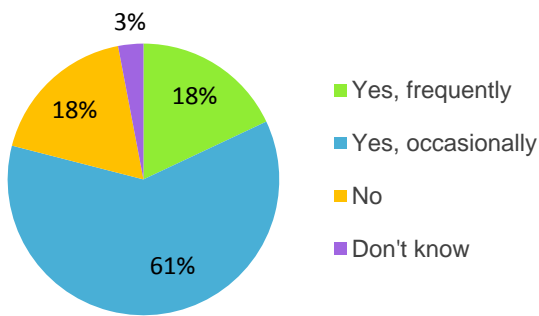
Approximately half of an organization's IT experts – 5% of the workforce in total – are dedicated or related to maintaining application performance, including staff in IT helpdesks and network management. You're fundamentally responsible for keeping the business running, and the burden that comes along with that. More than 2/3 of IT administrators find their jobs stressful – so much so that 57% are considering leaving their jobs.[v] We're hoping they will take a look at Ipanema before taking such a drastic measure!

App Performance = Business Performance

Ipanema's 2013 "Killer Apps" survey of 650 CIOs from around the world showed that 79% of respondents suffered frequent to occasional application performance problems over the past 12 months. Moreover, more than half indicated that the problem is growing. There are a number of explanations for this:

Have any of your business applications suffered performance problems in the last 10 months?

- 3% Don't know
- 18% Yes, frequently
- 18% No
- 61% Yes, occasionally

Legend:
- Yes, frequently
- Yes, occasionally
- No
- Don't know

Companies are increasingly moving to the cloud and drawing on applications from public and private data centers. This can increase complexity in the network – and traditional network management techniques are not fit for purpose.

We see companies adopting advanced applications with high bi-directional bandwidth requirements like Unified Communications. Ironically, while intended to improve productivity and foster teamwork,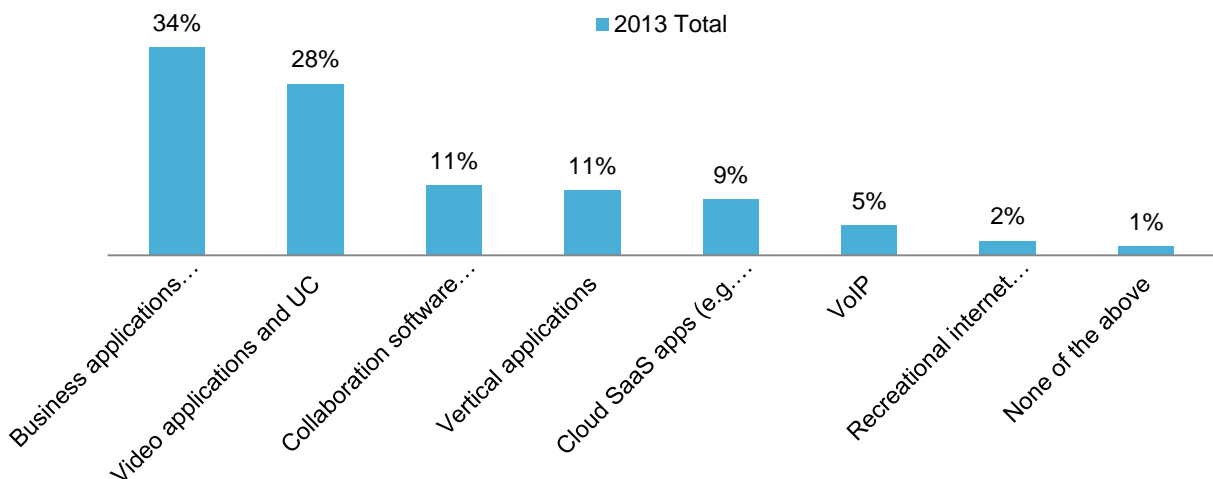 this type of implementation can very quickly strain network connections between branch offices which are not accustomed to such high traffic flows.

Forget "BYOD." Individual departments are now practicing "BYOA" or Bring Your Own App, where the marketing department, for instance, may adopt a cloud CRM system outside IT's control.

Data volumes, network complexity and bandwidth usage are growing exponentially, even in the "business as usual" organization – regardless of the above three trends. Traditional "WAN Optimization" solutions in place today are simply unable to keep up with this organically dynamic environment.

What's most significant is that it's the business applications – those which companies value and invest in the most, and that touch the largest number of users – that are experiencing the greatest problems.

Which application type most frequently suffers performance problems in your organisation?

■ 2013 Total

- Business applications…: 34%
- Video applications and UC: 28%
- Collaboration software…: 11%
- Vertical applications: 11%
- Cloud SaaS apps (e.g.…: 9%
- VoIP: 5%
- Recreational internet…: 2%
- None of the above: 1%

Productivity: More bad press for the "1 percent"

Ipanema estimates that losing a mere five minutes a day due to poor application performance represents a loss of 1% of people efficiency, which can cut profitability by 10%. Now it gets really serious.

The Towson study showed that workers wasted 42-43% of their time on the computer due to frustrating experiences (Lazar, J., Jones, A., and Shneiderman, B., 2006).[vi] The lost time included not only the incident itself, but the "recovery" time to get back on task.

In a recent Network World survey of IT and business executives, more than two-thirds see that poor app performance decreases productivity (73%) and lowers customer satisfaction (68%). The executives surveyed also revealed that poor app performance directly results in higher frustration levels, an increase in complaints from end users, and issues completing work effectively/on time.

Profitability: Could anyone argue against better app performance leading to higher revenues?

Poor customer satisfaction is the most important business problem companies face, according to 40% of respondents in a survey conducted by storage vendor Kaminario. [vii] When it comes to ecommerce sites, the customer experience (and resulting profitability) begins even before a purchase is made. While customers might be willing to stand in long lines inside stores for a really good sale, their tolerance for waiting online is much lower.
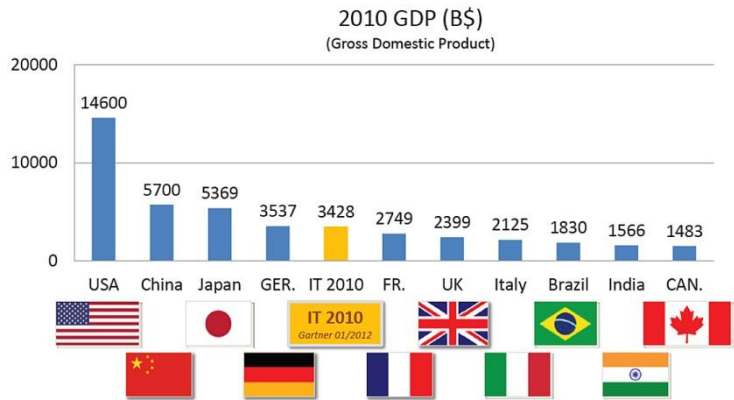
A recent survey from Brand Perfect[viii] shows that slow load time is the number one reason consumers abandon their e-commerce shopping carts, according to 66% of UK respondents and 51% of US respondents. How long is too long? Microsoft engineers claim that as little as 250 milliseconds – less than the blink of an eye — can be long enough to send shoppers to a competitor's website instead[ix]. Because even slight improvements to e-commerce site load times can dramatically improve revenue, the business case for guaranteed application performance is stronger than ever.

If IT were a country…A look at the math behind guaranteed application performance

According to Gartner's "IT Key Metrics Data" (January 2012), **companies spend an average of $1,000/employee/month on IT:**
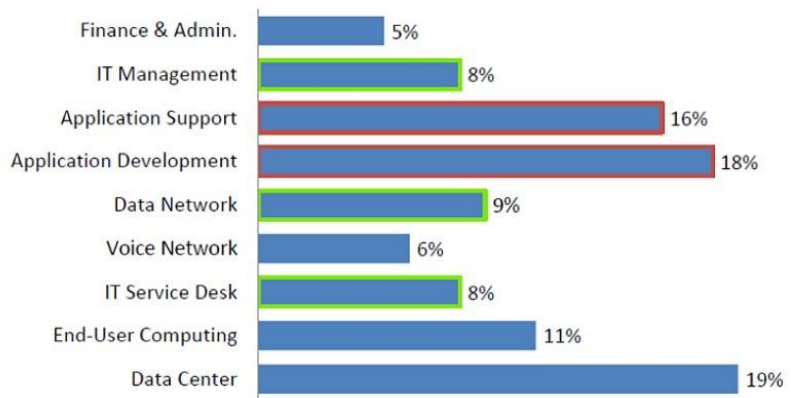
- Applications account for more than $300/employee/month;

- IT Operations represents $170/employee/month;

- WAN cost is $45/employee/month.

2010 GDP (B$)
(Gross Domestic Product)

Country	GDP
USA	14600
China	5700
Japan	5369
GER.	3537
IT 2010	3428
FR.	2749
UK	2399
Italy	2125
Brazil	1830
India	1566
CAN.	1483

IT 2010 *Gartner 01/2012*

In Ipanema's 2013 Killer Apps survey, 40% of respondents are seeing their networking requirements growing at 20% or more annually. Slightly more than half of all respondents have increased their networking budgets in the past year alone.

But continued increases in spending are neither sustainable nor delivering added value. This is not a case of "you get what you pay for." Instead, companies are getting even more frustrated – in other words, seeing a negative ROI – because they are actually experiencing *greater* performance problems year over year.

IT Spending by Technology Domain (2011, North America)

Domain	%
Finance & Admin.	5%
IT Management	8%
Application Support	16%
Application Development	18%
Data Network	9%
Voice Network	6%
IT Service Desk	8%
End-User Computing	11%
Data Center	19%

Ipanema guarantees the performance of these investments
Ipanema saves on these expenses
Source: Gartner IT Key Metrics Data (January 2012)

Ipanema solutions guarantee the quality of all business applications. With a proven Total Cost of Ownership (TCO) of $3/employee/month, Ipanema solutions guarantee the quality of business critical applications, protecting your average investment for applications of $300/employee/month. By truly doing more with less, customers delay bandwidth upgrades by three years, which saves approximately $15/employee/month. Thanks to the dynamic application performance guarantee, they also save $15/employee/month for the operations. That's pretty powerful math.

Trying an alternative course of action is the "adaptive" response to frustration

To come full circle from the original Towson study, the perceived ability to fix IT problems, as well as the desire to do so, may also affect levels of frustration. Other academic research suggests four behavioral reactions to organizational frustration: 1) an emotional response of anger and increased physiological arousal, 2) trying alternative courses of action, 3) aggression, and 4) withdrawal. [x] It's an understatement that three out of the four options don't produce effective results in the workplace. We're betting on reaction #2.

When it comes to applications on the WAN, users have limited control over their performance. This is the "dirty secret" of IT consumerization (something we addressed in Volume 1 of this series). Without visibility into what's actually running and bandwidth usage, you also have limitations to fix the problems.

Simply adding real (bandwidth) or virtual (with WAN Optimization) capacity to a network and making the pipes bigger doesn't address the fundamental problem. It's not just about having a bigger road for the cars to drive on; it's about dynamically managing traffic and prioritizing the most critical vehicles (e.g., ambulance, fire engine, etc.) depending on the real-time traffic conditions (traffic jam, rush hour, etc.). There is no need to enlarge roads (with bandwidth or WAN Optimization) or create priority lanes (CoS). You will always reach your destination on time regardless of traffic conditions.

You need to go beyond increased bandwidth and WAN optimization to *guarantee* application performance, requiring:

- The visibility to understand what's happening on the network by examining traffic flows (who is using what and for what purpose);

- The means to control applications according to their business criticality so that critical apps are always prioritized and receive the expected performance level (e.g. ERP traffic is given priority over YouTube or email);

- The means to proactively prevent application problems before they occur;

- The way to maximize all network resources, actively using "back-up" lines as business lines. Enterprises have uninterrupted business continuity, exploit large network capacity at low cost and benefit from Internet immediacy and ubiquity.

"We cannot deny the facts of nature, but we should certainly try to improve on them" **Mihaly Csikszentmihalyi**

The goal is "Flow," a termed coined by psychologist Mihály Csíkszentmihályi, described as a deep state of engagement and timelessness when people are fully absorbed in what they are doing. Applied here, flow means that business applications are prioritized automatically, traffic is routed dynamically, and *users are not aware of the WAN – they are simply working and having an excellent application experience*. As an IT manager guaranteeing applications performance, you're contributing to employee satisfaction, productivity and ultimately, the profitability stream.

When you have complete visibility and automated control over how applications perform, you provide a sense of peace to everyone in the organization – from you and your teammates to your colleagues across the user community. Instead of finding the sources of problems, you're finding new ways to leverage the technology you have. Instead of spending more money on bandwidth, you're investing in more efficient platforms. And instead of banging their heads in frustration and lost productivity, employees are busy working … just as they should be.

Related Resources:

- Ipanema Killer Apps Survey 2013

- Guarantee Unified Communications performance over your WAN

- Cloud computing - 31 companies describe their experiences

- Read Volume 1 (How to Eliminate Frustration, Empower your Colleagues & Embrace the Future), our introduction to the series.

Visit our website to download the documents: http://www.ipanematech.com/en/library

To come soon:

- In Volume 3, "IT Ostrich… or Peacock?" we'll address the impact of application performance on IT transformation from the cloud to hybrids to legacy and next-gen networks.

- In Volume 4, "The Power of Synchronicity," we'll focus on the elusive quest for IT and Business alignment, making guaranteed application performance a true enabler for innovation.

[i] American Psychological Association and Harris Interactive, Workplace Survey, (March 2012).

[ii] Scheirer, J., Fernandez, R., Klein, J., and R. Picard, "Frustrating the user on purpose: a step toward building an affective computer, *"Interacting with Computers* 14, no. 2 (2002): 93-118

[iii] Ibid

[iv] http://www.bomgar.com/press/coverage/it-problems-prompt-screaming-fits-and-walk-outs-at-work#.UXMfMsotdLE

[v] http://www.businessnewsdaily.com/4229-information-technology-work-stress.html

[vi] Lazar, J., Jones, A., and Shneiderman, B. (2006). Workplace User Frustration with Computers: An Exploratory Investigation of the Causes and Severity. Behaviour and Information Technology, 25(3), 239-251.

[vii] http://www.networkworld.com/newsletters/stor/2011/010311stor1.html

[viii] http://brandperfect.org/online-retail-research-report-november-2012.pdf

[ix] http://www.nytimes.com/2012/03/01/technology/impatient-web-users-flee-slow-loading-sites.html?pagewanted=all&_r=0

[x] Spector, P. E. (1975). Relationships of Organizational Frustration with Reported Behavioral Reactions of Employees. *Journal of Applied Psychology, 60*(5), 635-637.

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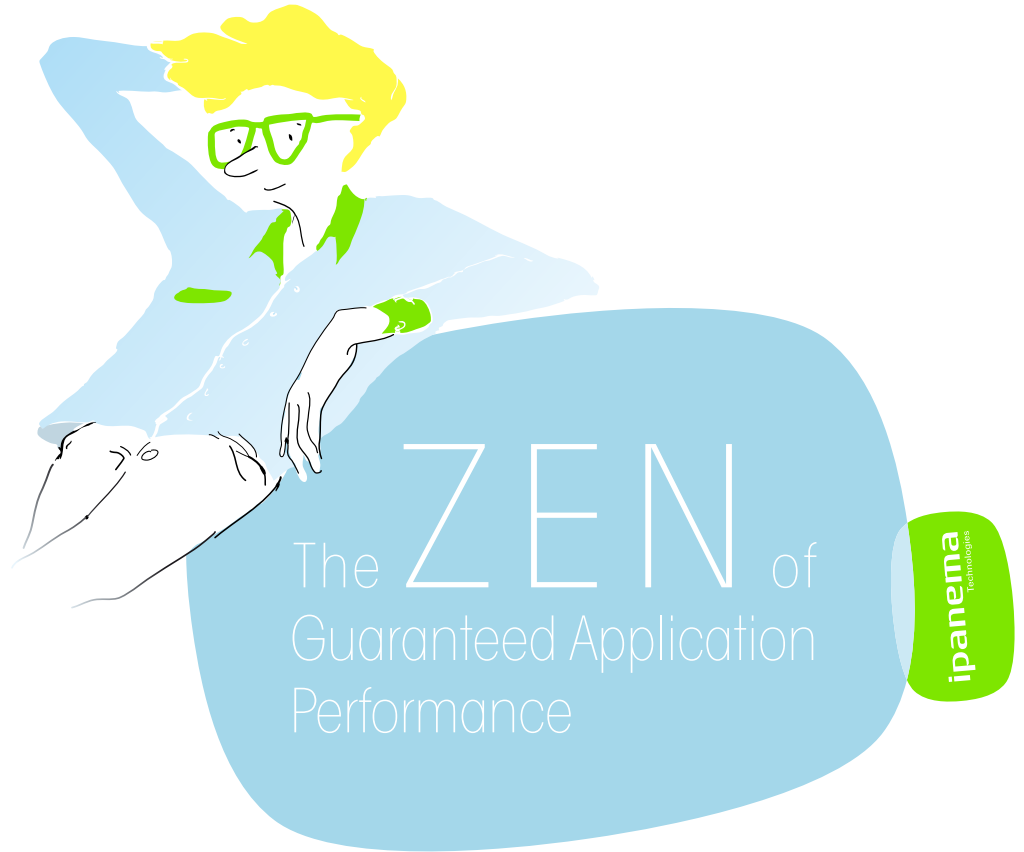
About
Ipanema Technologies

Ipanema provides enterprises with a direct connection between application performance and their business requirements. With Ipanema Technologies, enterprises understand which applications use the network and automatically deliver guaranteed performance to each user. Enterprises can support their strategic IT transformations (like cloud computing and Unified Communications) and control Internet growth while reducing their IT expenses. Ipanema's customers range from mid-sized companies to enterprises with 1,000s of sites. Enterprises can use Ipanema as a product through an international network of certified channel partners, and as a service through Managed Service Providers and telecom operators' managed services. For SMBs, Ipanema is available as a service through Ipanema's AppsWork™ authorized partner network.

For more information,
visit: www.ipanematech.com