Agenda

1. Introduction to visual effectiveness

2. Simple visual means for engaging docs
   • Exercise 1

3. Simple structural means for engaging docs
   • Exercise 2

4. Takeaways
Introduction to Visual Efficiency
Iliana Kostova
Senior Staff Technical Writer
VMware
“Visual effectiveness is a measure of how the appearance of information and the use of visual elements within it affect the ease with which users can find, understand, and use the information”

Developing Quality Technical Information, IBM Press
Visual effectiveness in technical documentation

Human brain processes mostly images

- Shorter learning time
- Easy to understand
- Easy and longer to remember
Illustrative in any language
Brand
Azure Reference Architectures

Our reference architectures are arranged by scenario, with related architectures grouped together. Each architecture includes recommended practices, along with considerations for scalability, availability, manageability, and security. Most also include a deployable solution.

- **Windows VM workloads**: This series starts with best practices for running a single Windows VM, then multiple load-balanced VMs, and finally a multi-region N-tier application.

- **Linux VM workloads**: This series starts with best practices for running a single Linux VM, then multiple load-balanced VMs, and finally a multi-region N-tier application.

- **Hybrid network**: This series shows options for creating a network connection between an on-premises network and Azure.

- **Network DMZ**: This series shows how to create a network DMZ to protect the boundary between an Azure virtual network and an on-premises network or the internet.
Means for visual effectiveness

Images

- Icons and logos
- Screenshots (optionally with callouts)
- Diagrams
Means for visual effectiveness

- Animations
  - Why enterprise software is so hard, and the barriers to entry for small companies targeting the enterprise market.
  - Game-console sales by generation, Nintendo In Crisis, and AnandTech's

- Videos
Means for visual effectiveness

Structural units

- Tables
- Lists
- Sections
- Syntax-highlighted code blocks
Example

Before

VLAN Policy

VLAN policies determine how VLANs function across virtual and physical environments.

A virtual local area network (VLAN) is a group of hosts connected together by a location. A VLAN has the same attributes as a physical switch.

The scope of VLAN policies can be distributed port- or domain-wide.

After

VLAN Configuration

Virtual LANs (VLANs) enable a single physical LAN segment to be further isolated so that groups of ports are isolated from one another as if they were on physically different segments.

Benefits of Using VLANs in vSphere

The VLAN configuration in a vSphere environment provides certain benefits:

- Integrates ESXi hosts into a pre-existing VLAN topology
- Isolates and secures network traffic
- Reduces congestion of network traffic

Watch the video about the benefits and main principles in introducing VLANs in a vSphere environment.

VLAN Tagging Modes

vSphere supports three modes of VLAN tagging: ESI (External Switch Tagging), VST (Virtual Switch Tagging), and VGT (Virtual Guest Tagging).

<table>
<thead>
<tr>
<th>Tagging Mode</th>
<th>VLAN ID on switch port groups</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESI</td>
<td>0</td>
<td>The physical switch performs the VLAN tagging. The host network adapters are connected to access ports on the physical switch.</td>
</tr>
</tbody>
</table>
**LACP Support on a vSphere Distributed Switch**

With LACP support on a vSphere Distributed Switch, you can connect ESXi hosts to physical switches by using dynamic link aggregation. You can create multiple link aggregation groups (LAGs) on a distributed switch to aggregate the bandwidth of physical NICs on ESXi hosts that are connected to LACP port channels.

![Diagram of LACP Support on a vSphere Distributed Switch](image)

**LACP Configuration on the Distributed Switch**

You configure a LAG with two or more ports and connect physical NICs to the ports. LAG ports are teamed within the LAG, and the network traffic is load balanced between the ports through an LACP hashing algorithm.

You can use a LAG to enhance the traffic of distributed port groups to provide increased network bandwidth, redundancy, and load balancing to the port groups.

When you create a LAG on a distributed switch, a LAG object is also created on the proxy switch of every host that is connected to the distributed switch. For example, if you create LAG with two ports, LAG with the same number of ports is created on every host that is connected to the distributed switch.

On a host proxy switch, you can connect one physical NIC to only one LAG port. On the distributed switch, one LAG port can have multiple physical NICs from different hosts connected to it. The physical NICs on a host that you connect to the LAG ports must be connected to the switch that participates in an LACP port channel on the physical switch.

You can create up to 64 LAGs on a distributed switch. A host can support up to 32 LAGs. However, the number of LAGs that you can actually use depends on the capabilities of the underlying physical environment and the topology of the virtual network. For example, if the physical switch supports up to four ports in an LACP port channel, you can connect up to four physical NICs per host to a LAG.

**Port Channel Configuration on the Physical Switch**

For each host on which you want to use LACP, you must create a separate LACP port channel on the physical switch. You must consider the following requirements when configuring LACP on the physical switch:

- The number of ports in the LACP port channel must be equal to the number of physical NICs that you want to group on the host. For example, if you want to aggregate the bandwidth of two physical NICs on a host,
Create a branch

When you’re working on a project, you’re going to have a bunch of different features or ideas in progress at any given time – some of which are ready to go, and others which are not. Branching exists to help you manage this workflow.

When you create a branch in your project, you’re creating an environment where you can try out new ideas. Changes you make on a branch don’t affect the master branch, so you’re free to experiment and commit changes, safe in the knowledge that your branch won’t be merged until it’s ready to be reviewed by someone you’re collaborating with.

ProTip

Branching is a core concept in Git, and the entire GitHub Flow is based upon it. There’s only one rule: anything in the master branch is always deployable.

Because of this, it’s extremely important that your new branch is created off of master when working on a feature or a fix. Your branch name should be descriptive (e.g., refactor-authentication, user-context-cache-key, make-retina-avatars), so that others can see what is being worked on.
Traps

- Do not overload the documentation with visuals
- Be consistent with similar types of blocks
- Work with the translation team
Q & A
Simple visual means for engaging docs
Snezhana (SJ) Simeonova

Graphic Designer

VMware
Characteristics of visual means

1. Accessibility
2. Types of images/illustrations
3. Color Palette
4. Example graphics layouts principles
5. Screenshots
6. Font size and Paper format
7. Free tools
Accessibility

Deuteranopia test

Tritaranopia test

Protanopia test
Accessibility

NORMAL VISION    DEUTERANOMALIA    PROTANOPIA    TRITANOPIA
Types of images/illustrations

- SVG, EPS, PDF, JPG, PNG,
- Recommended for: graphics, icons

• JPG, PNG
• Recommended for: screenshots
Color Palette

Dark Pink
C:34 M:A Y:0 K:0
R:173 G:32 B:142

Blue
C:A M:5 Y:0 K:0
R:0 G:114 B:188

Yellow
C:0 M:0 Y:A K:0
R:255 G:242 B:0

Crimson
C:25 M:A Y:A K:0
R:193 G:39 B:45

Purple
C:73 M:A Y:0 K:0
R:106 G:44 B:145

Green
C:5 M:0 Y:A K:0
R:141 G:198 B:63

Red
C:0 M:97 Y:A K:0
R:268 G:42 B:36
# Color Palette

<table>
<thead>
<tr>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pantone 656 U</td>
<td>Pantone 621 U</td>
</tr>
<tr>
<td>C: 9; M: 5; Y: 2; K: 0</td>
<td>C: 20; M: 4; Y: 18; K: 0</td>
</tr>
<tr>
<td>R: 228; G: 233; B: 241</td>
<td>R: 203; G: 223; B: 211</td>
</tr>
<tr>
<td>#e4e9f1</td>
<td>#cbdfd3</td>
</tr>
<tr>
<td>Pantone 7461 UP</td>
<td>Pantone 446 C</td>
</tr>
<tr>
<td>C: 71; M: 23; Y: 5; K: 0</td>
<td>C: 70; M: 57; Y: 61; K: 44</td>
</tr>
<tr>
<td>R: 58; G: 158; B: 207</td>
<td>R: 62; G: 69; B: 67</td>
</tr>
<tr>
<td>#3a9ecf</td>
<td>#3e4543</td>
</tr>
<tr>
<td>Pantone 7706 C</td>
<td>Pantone 731 C</td>
</tr>
<tr>
<td>C: 100; M: 51; Y: 29; K: 6</td>
<td>C: 35; M: 72; Y: 100; K: 37</td>
</tr>
<tr>
<td>R: 0; G: 105; B: 143</td>
<td>R: 121; G: 66; B: 16</td>
</tr>
<tr>
<td>#00698f</td>
<td>#794210</td>
</tr>
<tr>
<td>Pantone 368 U</td>
<td>Pantone 137 C</td>
</tr>
<tr>
<td>C: 66; M: 6; Y: 100; K: 0</td>
<td>C: 0; M: 42; Y: 100; K: 0</td>
</tr>
<tr>
<td>R: 102; G: 178; B: 69</td>
<td>R: 255; G: 164; B: 0</td>
</tr>
<tr>
<td>#66b245</td>
<td>#ffa400</td>
</tr>
</tbody>
</table>

Free online tools to help you create your color palette:

https://coolors.co
http://paletton.com
Icon set

Admin
User
Virtual Machine
Application
Server

Free online icons and images:

http://www.freepik.com
https://www.flaticon.com
https://dribbble.com

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Example graphics layout principles

**Presentation Layer**
Contains the UI part of the application. This tier presents data to the user or provides user input.

**Application**
Controls the functionality of the application by performing detailed processing.

**Data**
Includes the data persistence mechanisms (database servers, file shares, etc.) and exposes data.
Process Workflow

It’s often used in business process modeling.

They can also describe the steps in a use case diagram.

Activities modeled can be sequential and concurrent. In both cases an activity diagram will have a beginning and an end.
Architecture or Conceptual diagram

Remote Collector Node
  Product/Admin UI Suite API
  Collector

Master Node
  Product/Admin UI Suite API
  Collector

Master Replica Node
  Product/Admin UI Suite API
  Collector

Data Node
  Product/Admin UI Suite API
  Collector

Transaction Locator
Transaction Service
Analytics

Common Databases
Replication Database
Common Databases
Replication Database
Common Databases
A screen shot (sometimes called a screen capture) is an image of a computer desktop that can be saved as a graphics file.

*The mouse cursor is not included in the image.

<table>
<thead>
<tr>
<th>Option</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal to or less than 750 pixels wide</td>
<td>Set resolution to 150 dpi</td>
</tr>
<tr>
<td>Greater than 750 pixels wide</td>
<td>Set resolution to 200 dpi</td>
</tr>
</tbody>
</table>

You can add callouts to the image.
Font size and Paper format

The type of deliverable determines the allowable width and height of an illustration.

Recommended Image width and height for work in DITA - 6.5 x 9 in. **PDF Output!!!**

Designing the Image Around the Font

- If a graphic contains a lot of text, create the text blocks first to determine if a design can fit in the maximum width.
- Do not use a type size smaller than 8 points.
# Free tools - InkScape

<table>
<thead>
<tr>
<th>Tier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation systems</td>
<td>Linux, Ubuntu, Windows (32bit and 64bit, portable app) Mac OS X successfully used on FreeBSD</td>
</tr>
<tr>
<td>Free answer to</td>
<td>Adobe Illustrator or CorelDraw</td>
</tr>
<tr>
<td>Pros</td>
<td>Vector graphics editor Can edit screenshots</td>
</tr>
<tr>
<td>Cons</td>
<td>You can not save in JPG <em>Note that Windows 98/Me and 2000 are no longer supported</em></td>
</tr>
<tr>
<td>Suitable for</td>
<td>Technical diagrams and Icons</td>
</tr>
</tbody>
</table>

**Video**
# Free tools - GIMP

<table>
<thead>
<tr>
<th>Tier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation systems</td>
<td>Linux</td>
</tr>
<tr>
<td></td>
<td>Windows (XP and Vista)</td>
</tr>
<tr>
<td></td>
<td>Mac OS X</td>
</tr>
<tr>
<td>Free answer to</td>
<td>Adobe Photoshop</td>
</tr>
<tr>
<td>Pros</td>
<td>Great for photo retouching and image creation</td>
</tr>
<tr>
<td></td>
<td>Can edit screenshots</td>
</tr>
<tr>
<td>Cons</td>
<td>Some users say the newest version can be buggy</td>
</tr>
<tr>
<td></td>
<td>No 16-bit per channel color support.</td>
</tr>
<tr>
<td>Suitable for</td>
<td>Screenshots</td>
</tr>
</tbody>
</table>

## Video

vmware
Q & A
Exercise 1:
Create a diagram on example case.

Draw a diagram that shows an application that consists of the following tiers (layers):

<table>
<thead>
<tr>
<th>Tier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>Contains the UI part of the application usually on one or more UI servers. This tier presents data to the user or enables user input.</td>
</tr>
<tr>
<td>Application</td>
<td>Controls the functionality of the application by performing detailed processing.</td>
</tr>
<tr>
<td>Data</td>
<td>Includes the data persistence mechanisms (database servers, file shares, etc.) and exposes data.</td>
</tr>
</tbody>
</table>

Users access the application from their Web browsers over the Internet. After a user contacts the Presentation Layer, the Application Layer processes the details of the request from the Presentation Layer. The Application Layer performs the business logic of the application. It also saves or retrieves data from the Data layer according to the nature of the user request.

Because the application designers expect a high user request rate, the application configuration contains a load balancer that distributes the load between several UI servers. At the data tier, the application design contains one database instance.
Exercise 1:
The ready diagram.
Structural Means for Engaging Docs
Sub-Headings

• Page scanning

• Easy to grasp the info underneath

• Add to your page's SEO and keyword repeatability

• Formatting can reflect the hierarchy of tasks or system elements
Tables and Lists

- Easy to locate
- Easy to scan
- Clear relationships
- Can be used as semi-diagrams
Sub-steps, context in steps

• Sub-steps
  – Easy to identify groups of related steps
  – Procedure scanning

• Separate supplemental information related to a step

• Combine with tables to outline options in a step and sub-step
Examples of structural blocks

Additional Design Decisions

<table>
<thead>
<tr>
<th>Decision ID</th>
<th>Design Decision</th>
<th>Design Justification</th>
<th>Design Implication</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC/IM-</td>
<td>Assign static IP addresses to all management nodes of the SOC Infrastructure.</td>
<td>Configuring static IP addresses avoids connection failures due to DHCP availability or misconfiguration.</td>
<td>Accurate IP address management must be in place.</td>
</tr>
<tr>
<td>NET-005</td>
<td>Create DNS records for all management nodes to enable broadcast, reverse, and FQDN resolution.</td>
<td>Ensures consistent resolution of management nodes through both IP addresses (reverse lookup) and name resolution.</td>
<td>None</td>
</tr>
<tr>
<td>SOC/IM-</td>
<td>Use an NTP time source for all management nodes.</td>
<td>Critical to maintain accurate and synchronized time between management nodes.</td>
<td>None</td>
</tr>
</tbody>
</table>

Jumbo Frames Design Decisions

- IP storage throughput can be enhanced by configuring the frame payload from 1500 bytes to 9000 bytes. Jumbo frame settings cannot be configured within a LAN. When configuring jumbo frames on an SDN host, you need to ensure that the MTU that matches the MTU of the physical switch ports.

The workload determines whether it makes sense to configure jumbo frames on a virtual machine. If the workload consistently transfers large amounts of network data, configure jumbo frames if possible. In that case, the virtual machine operating system and the virtual machine NIC must also support jumbo frames.

Using jumbo frames also improves performance of large frame traffic.

Note:

- VXLANs need an MTU value of at least 1500 bytes on the switches and routers that carry the transport zone traffic.

<table>
<thead>
<tr>
<th>Decision ID</th>
<th>Design Decision</th>
<th>Design Justification</th>
<th>Design Implication</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC/IM-</td>
<td>Configure the MTU to 9000 bytes (Jumbo Frames) on the switchports that support the following traffic types: NPS, vSAN, vMotion, VXLAN.</td>
<td>Setting the MTU to 9000 bytes (Jumbo Frames) improves traffic throughput.</td>
<td>Minimum MTU setting must be increased to a minimum of 9000 bytes, setting this parameter up to 9000 bytes has no effect on VXLAN but ensures consistency across configurations that are adjusted from the default MTU size.</td>
</tr>
</tbody>
</table>

When adjusting the MTU payload size, the entire network path (VMware host, distributed switch, physical switches, and routing) must also be configured to support the same MTU payload size.
# Types of visuals according to the info type

<table>
<thead>
<tr>
<th>Information Type</th>
<th>Best Visual Type</th>
</tr>
</thead>
</table>
| Concepts         | • Diagrams – system architectures, conceptual diagrams, workflow diagrams  
                  | • Conceptual videos |
| Procedures       | • Screenshots     
                  | • How-to videos   
                  | • Assembly illustrations for hardware |
| References       | • UI maps with callouts  
                  | • Hierarchy and interface diagrams |
### Types of structurals according to the info type

<table>
<thead>
<tr>
<th>Information Type</th>
<th>Best Visual Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concepts</td>
<td>• Headings</td>
</tr>
<tr>
<td></td>
<td>• Lists</td>
</tr>
<tr>
<td></td>
<td>• Tables</td>
</tr>
<tr>
<td>Procedures</td>
<td>• Numbered steps</td>
</tr>
<tr>
<td></td>
<td>• Headings</td>
</tr>
<tr>
<td></td>
<td>• Option tables</td>
</tr>
<tr>
<td></td>
<td>• Code blocks for commands</td>
</tr>
<tr>
<td>References</td>
<td>• Tables</td>
</tr>
<tr>
<td></td>
<td>• Headings</td>
</tr>
<tr>
<td></td>
<td>• Syntax diagrams and blocks</td>
</tr>
<tr>
<td></td>
<td>• Code blocks for API component definition</td>
</tr>
</tbody>
</table>
Exercise 2:

Apply Visual Effectiveness Principles

How you can apply the visual and structural means discussed so far to the short documentation underneath?

- Visuals: Diagrams and screenshots
- Structural: Tables, lists, sub-headings

Please sketch your suggestion on the sheets of papers.
Takeaways

• Keep it simple, but not simpler than necessary.

• Use images with caution (localization costs).

• Be consistent with your graphic resources.

• Be consistent with abstracted models.
Your opinion is important to us! Please tell us what you thought of the lecture. We look forward to your feedback via smartphone or tablet under http://visu02.honestly.de or scan the QR code

The feedback tool will be available even after the conference!
Thank you!

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