



LabVIEW NXG & Web VIs

Martin Griffiths CLA, Technical Director



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Applications

Development
Process

Creating &
Deploying
Web VIs



Applications

Control

R&D Test

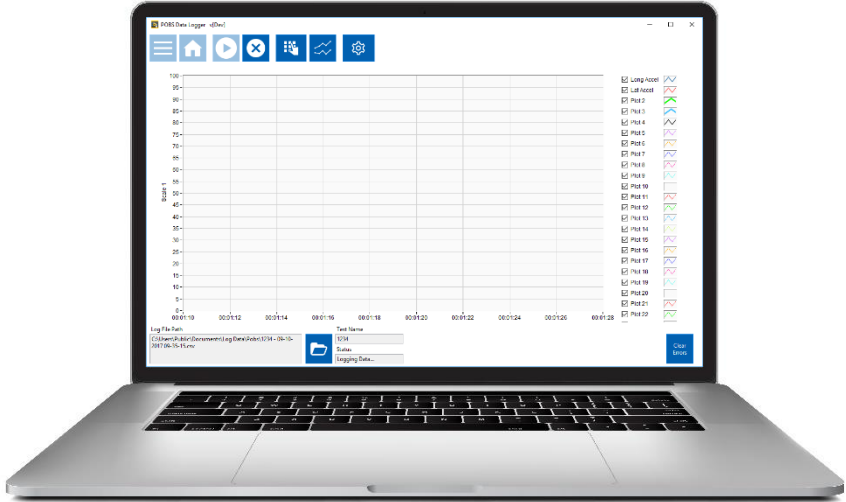
Production
Test

Data
Logging

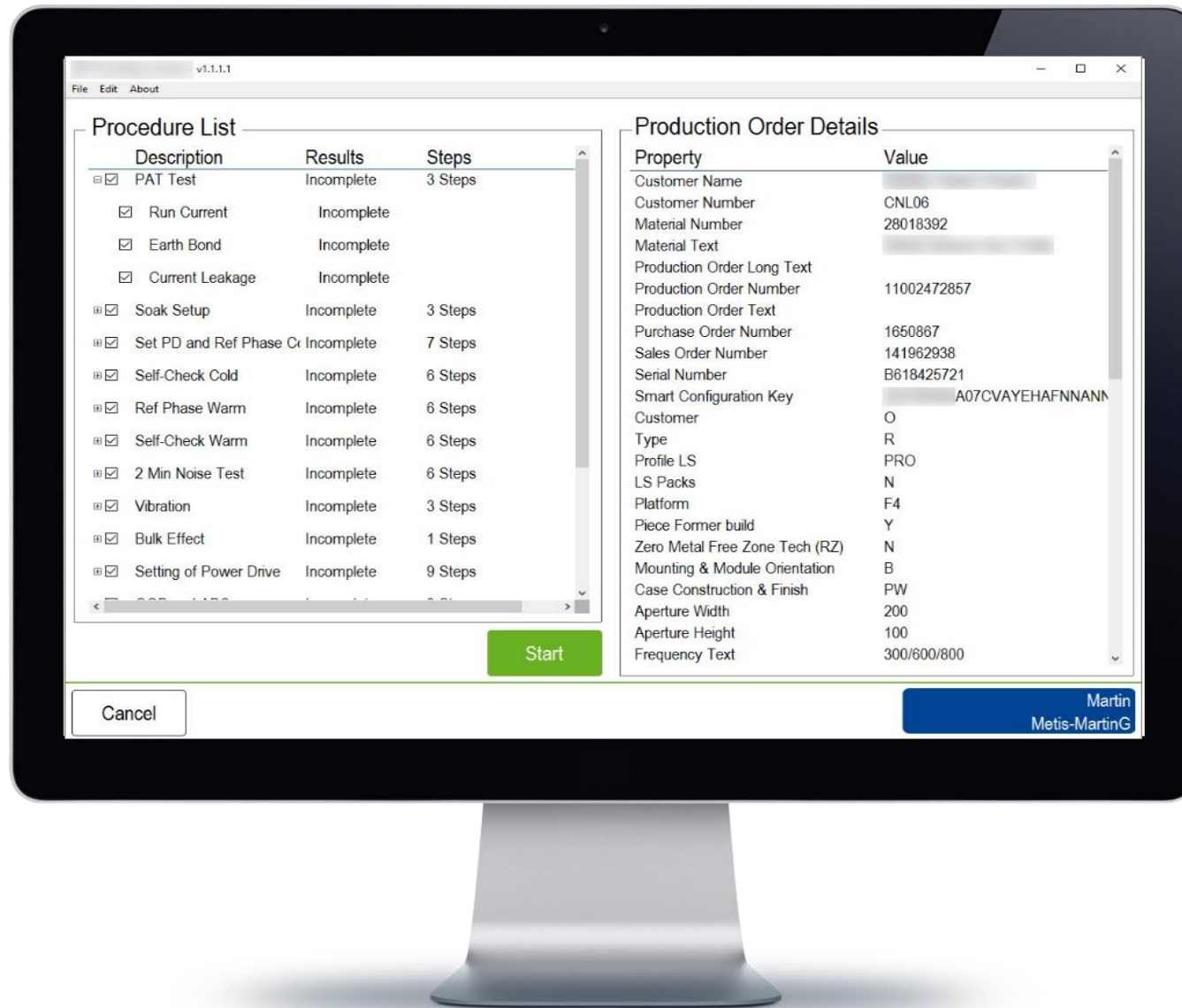
Industry
4.0

A large teal circle that occupies the right half of the slide, partially overlapping the white background. The text "Data Logging" is centered within this circle in white font.

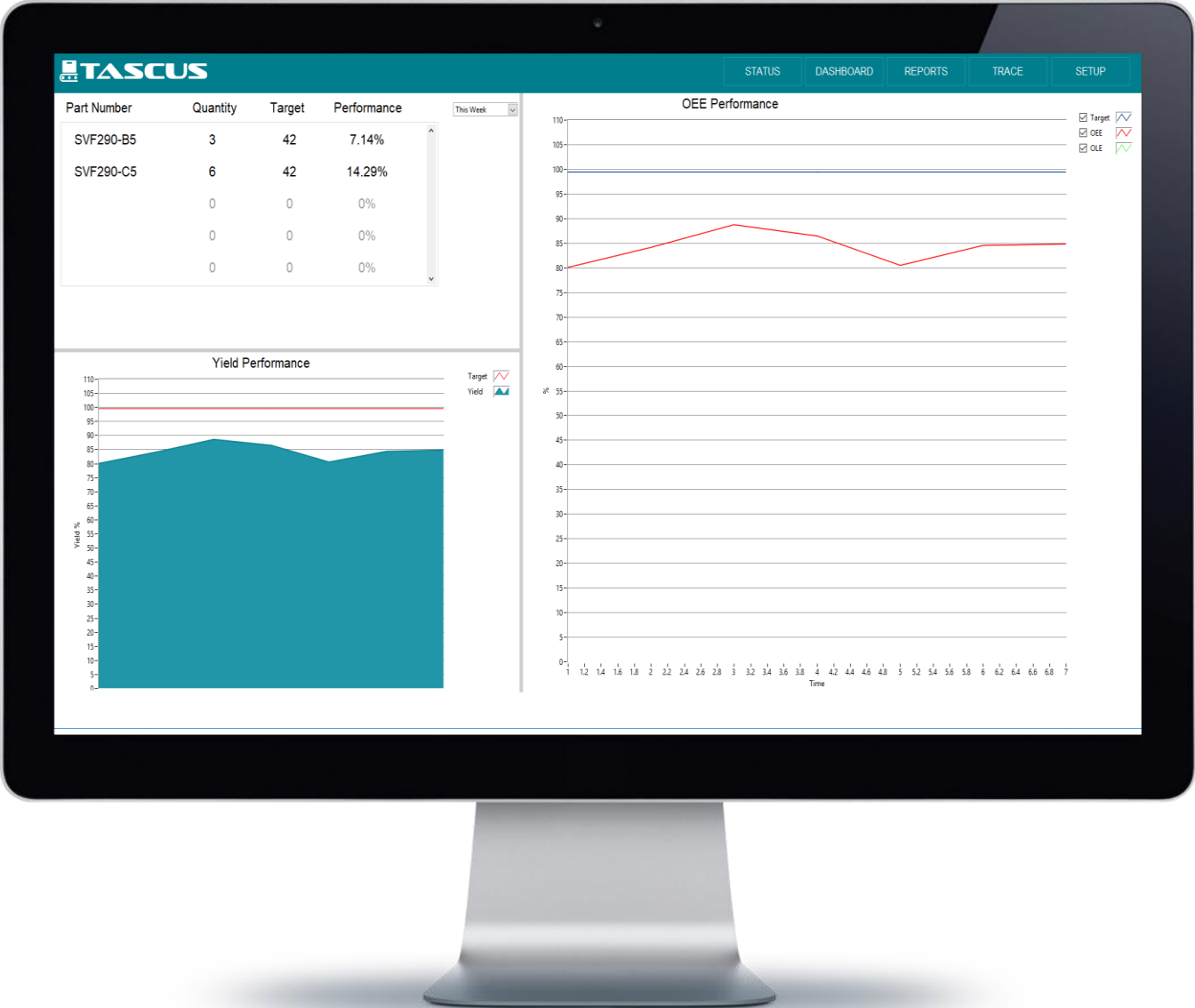
Data Logging



Production Test



Industry
4.0

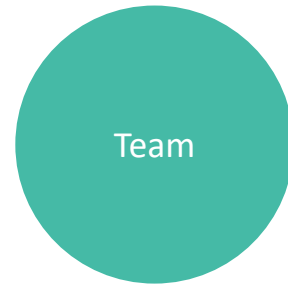




Applications

Development
Process

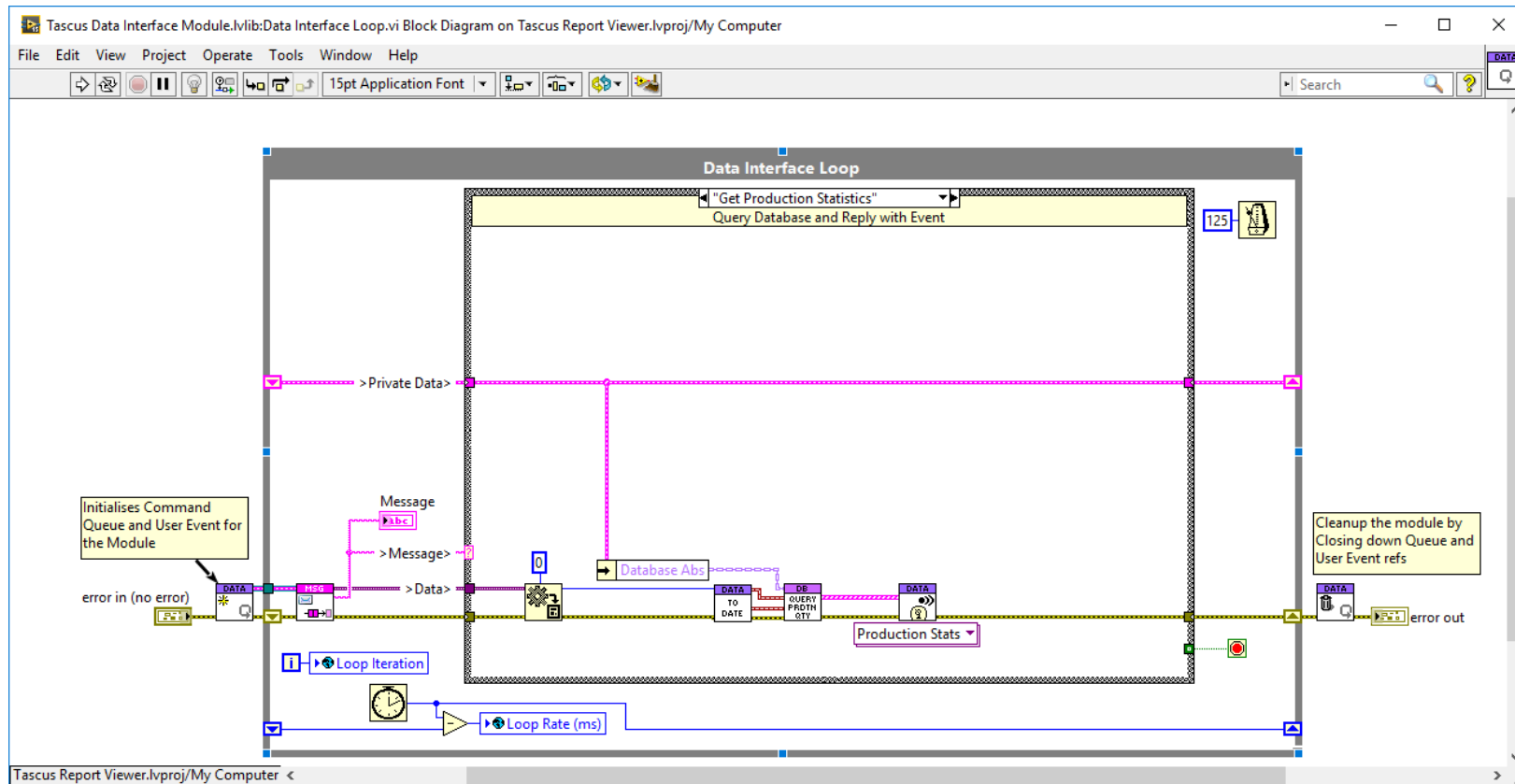
Creating &
Deploying
Web VIs



Team

- Team Based Development
- LV Architects & Developers
- Mix of Skills
- Deliver Projects in Agile Sprints
- Jira to Organise Sprints
- Mercurial (Hg) Source Code Control





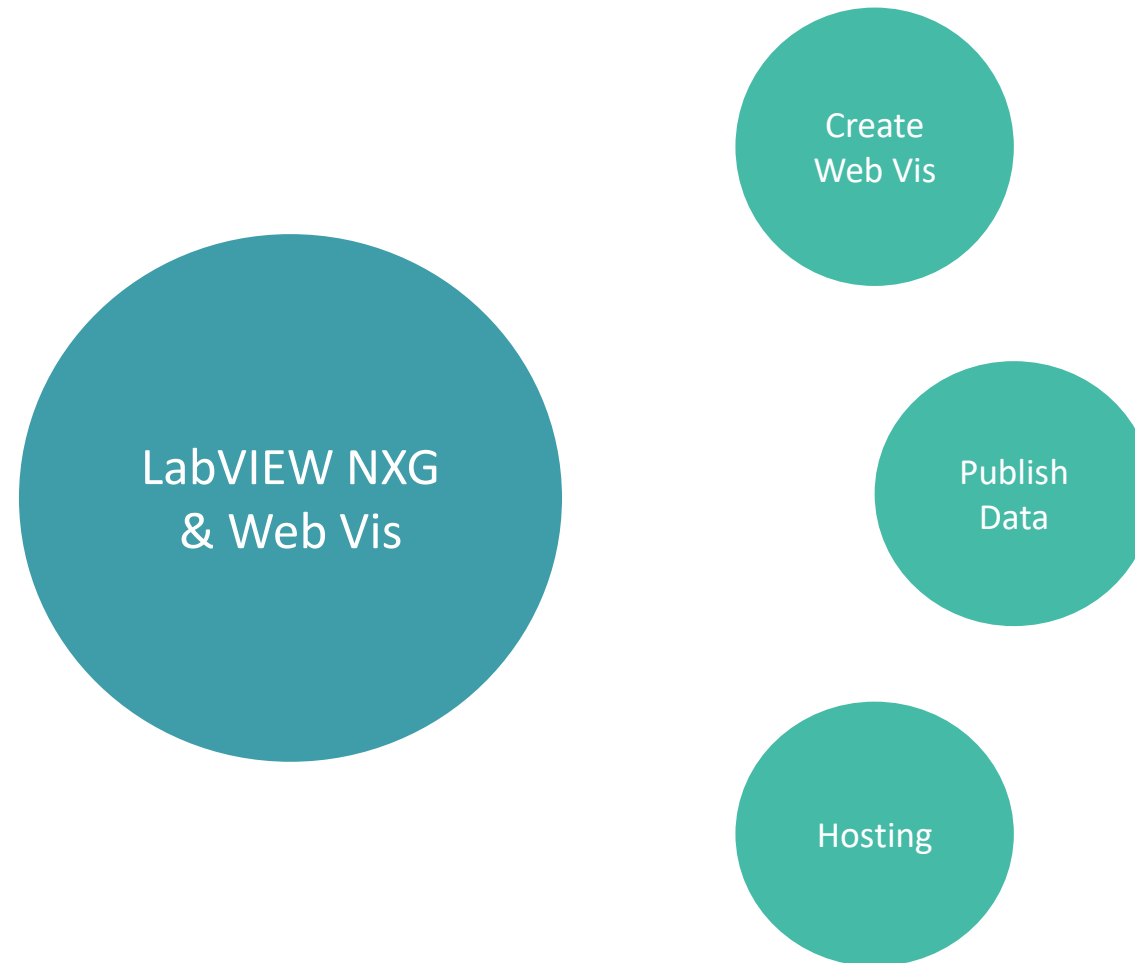
- LabVIEW 2015
- Template Projects
- Reusable Libraries
- SQL Server
- Some Web Tools



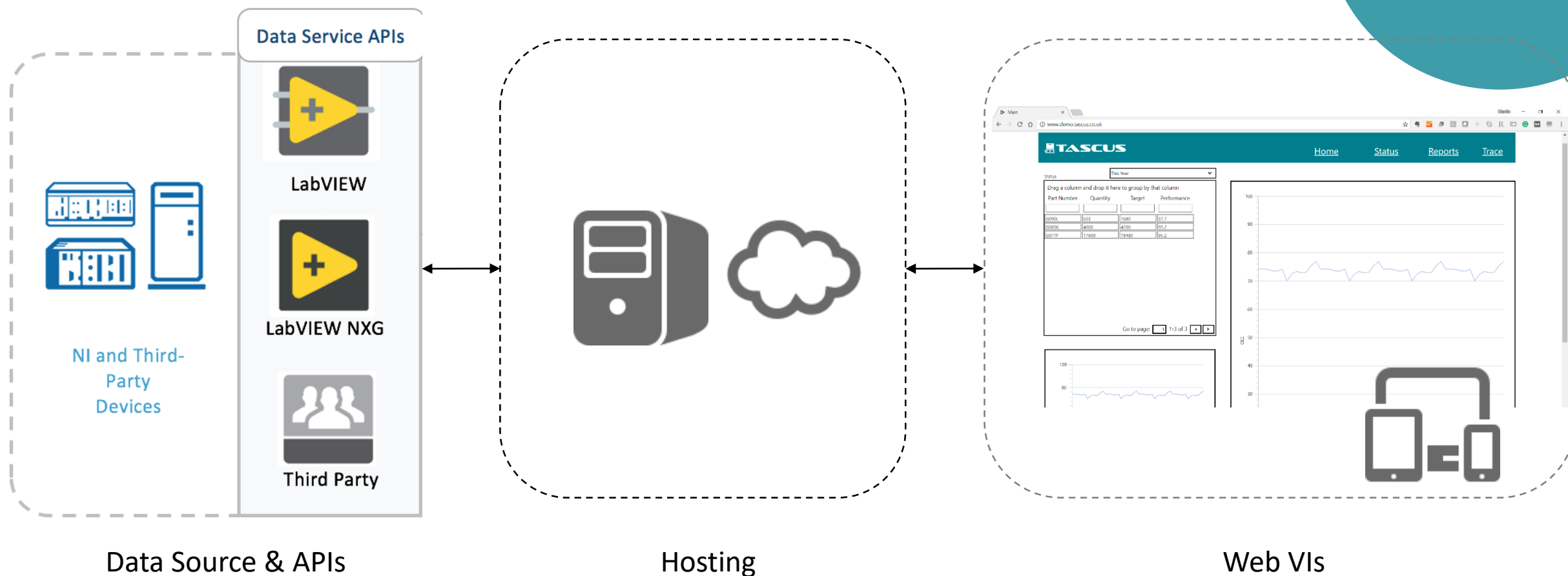
Applications

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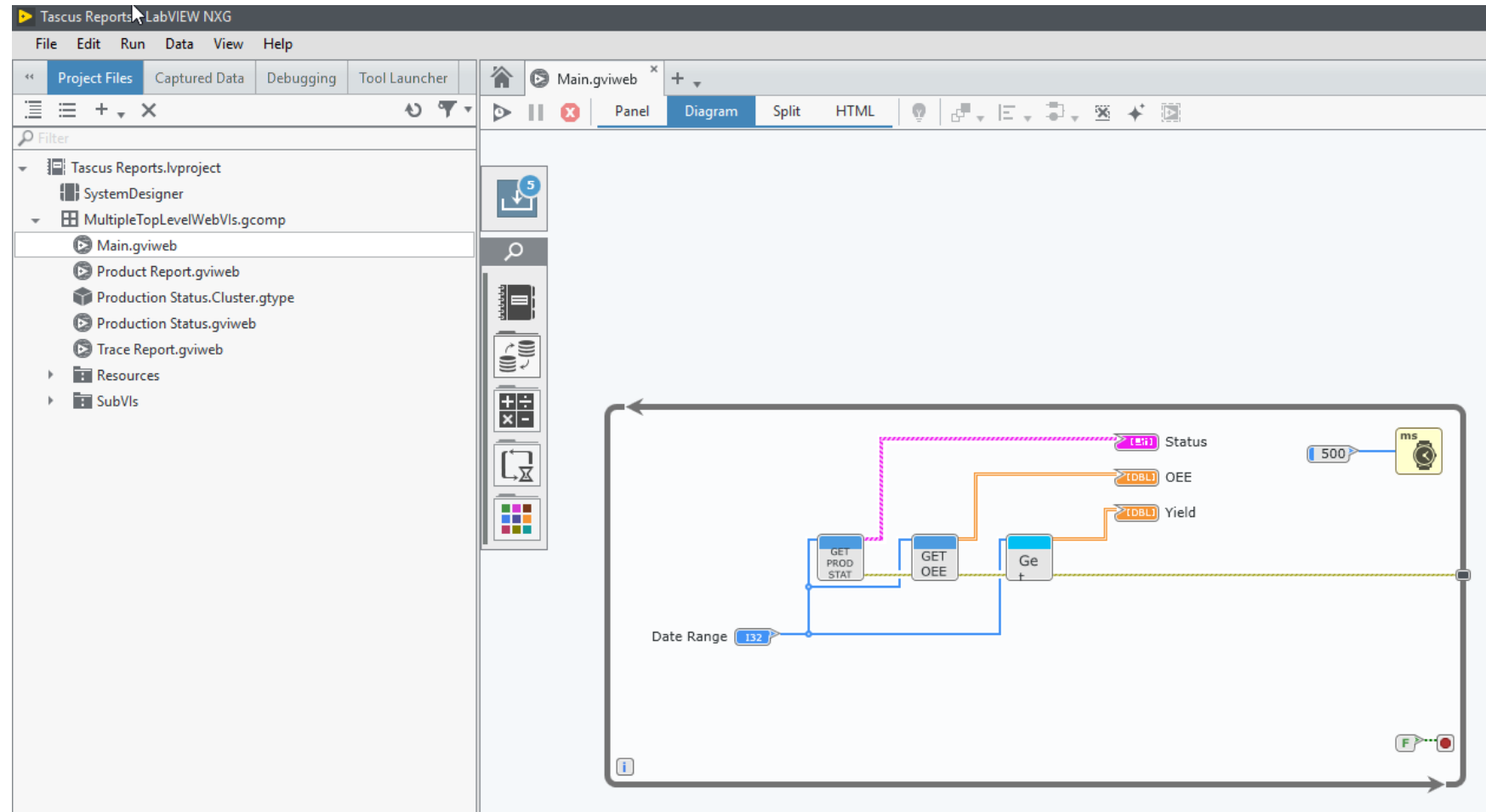


LabVIEW NXG & Web Vis



Getting Started

- Use a Virtual Machine
- Start with Example Projects



You can integrate Web Vis to LabVIEW code by publishing data using 2 methods – Skyline or Web Services.

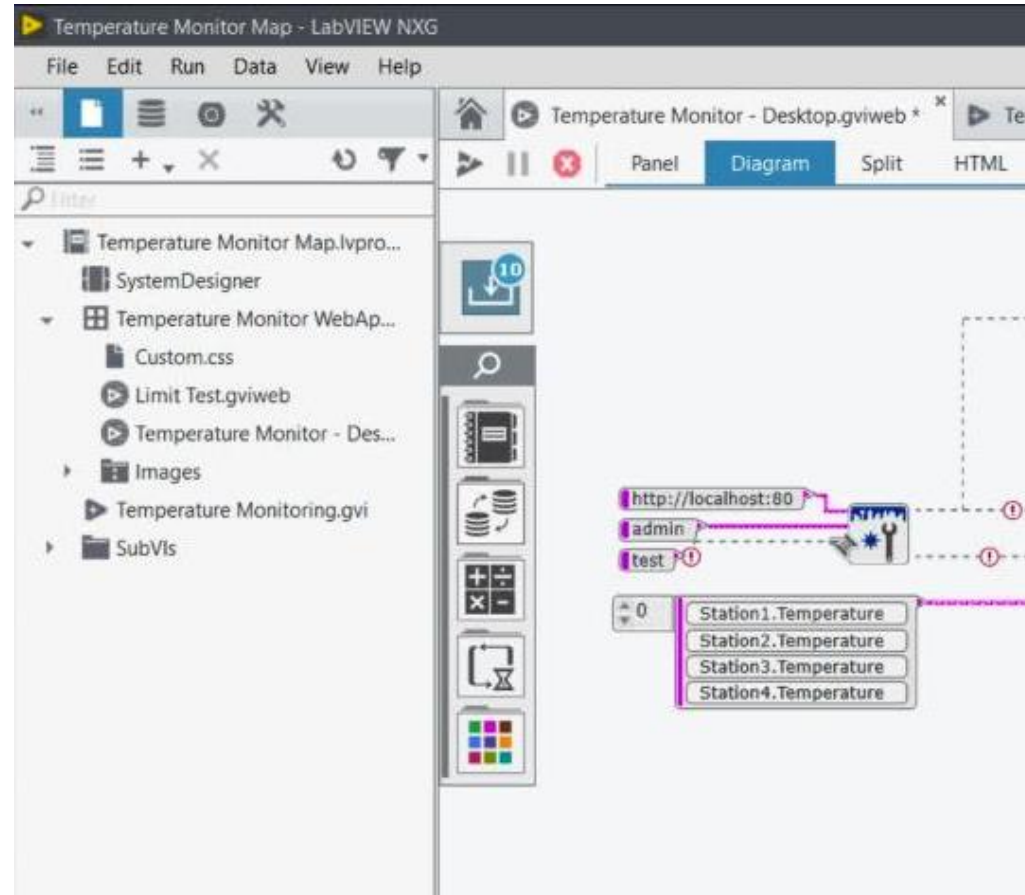
Sky Line

Web
Services

Publish
Data

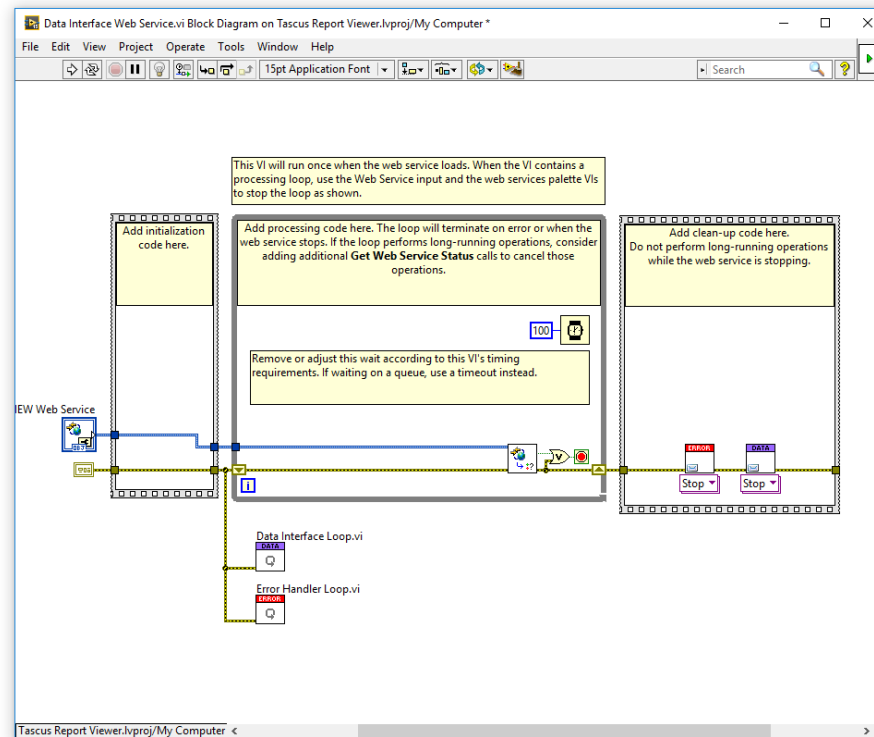
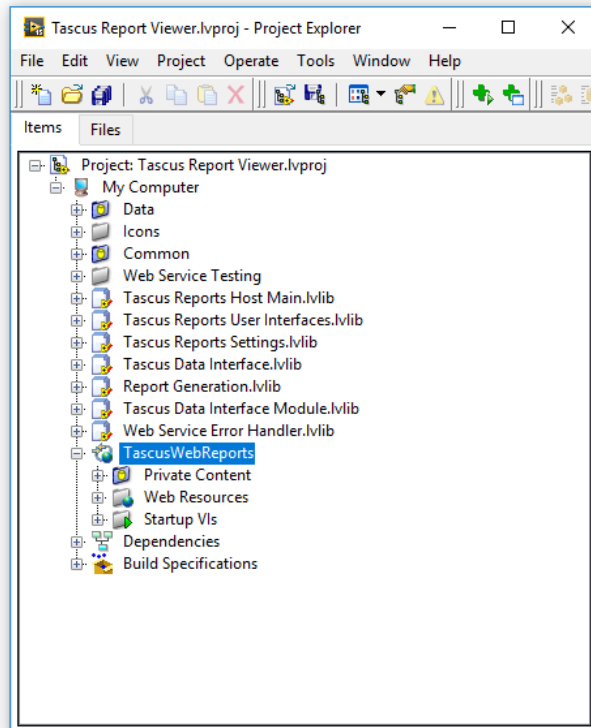
Sky Line

- Simple to use and setup
- Good for latest value data
- Requires LabVIEW 14+

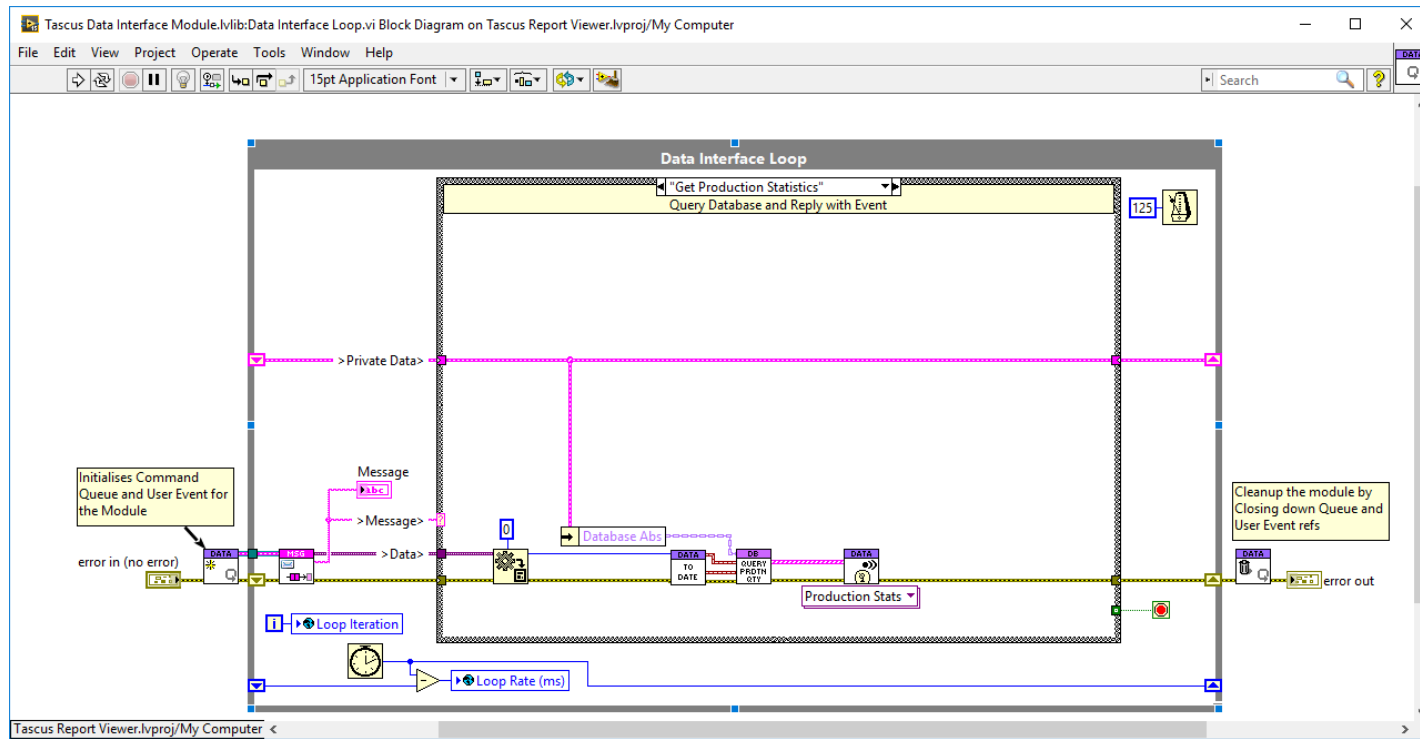




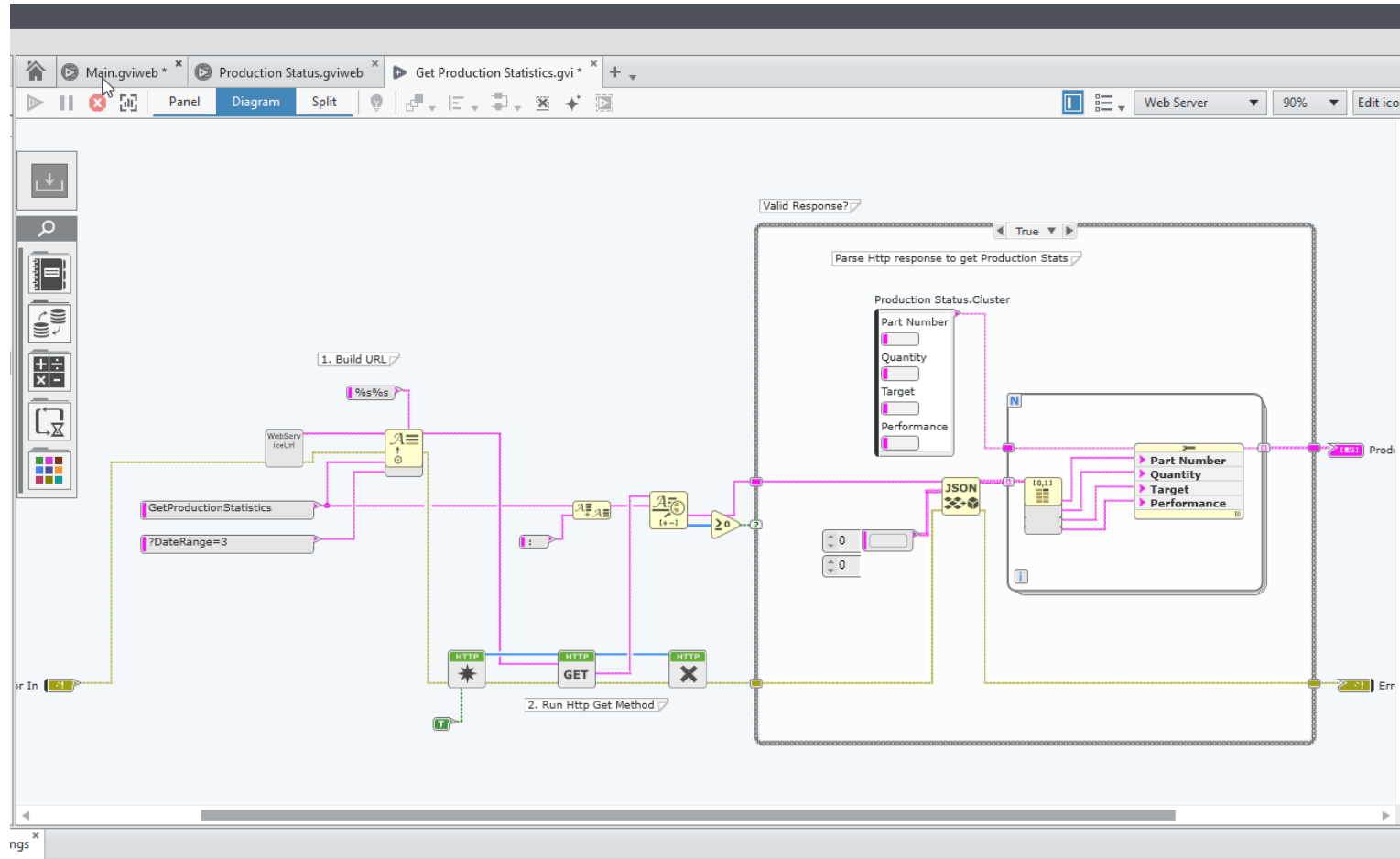
Web
Services



- + Can include decision making logic
- + Messaging
- + Any data type
- + Requires LabVIEW 14+
- More complex to configure
- More complex to deploy



Utilise Existing LabVIEW Code in Web Service



Web VI reads from Http Functions



Hosting

You need to consider where you want to view data in your web vis when considering where to host,

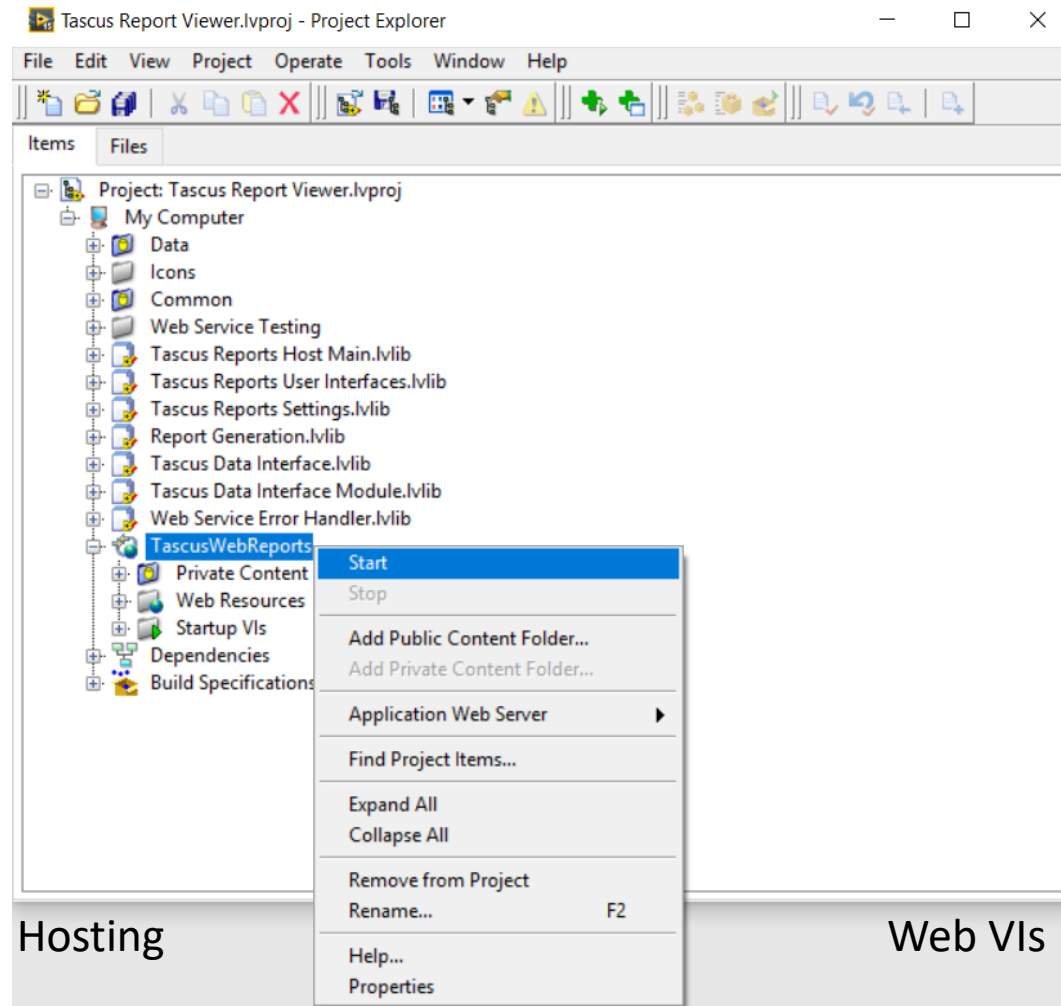


Local



Remote

- Web VIs can be deployed quickly from the LabVIEW project and data published locally.
- It's not very useful though!

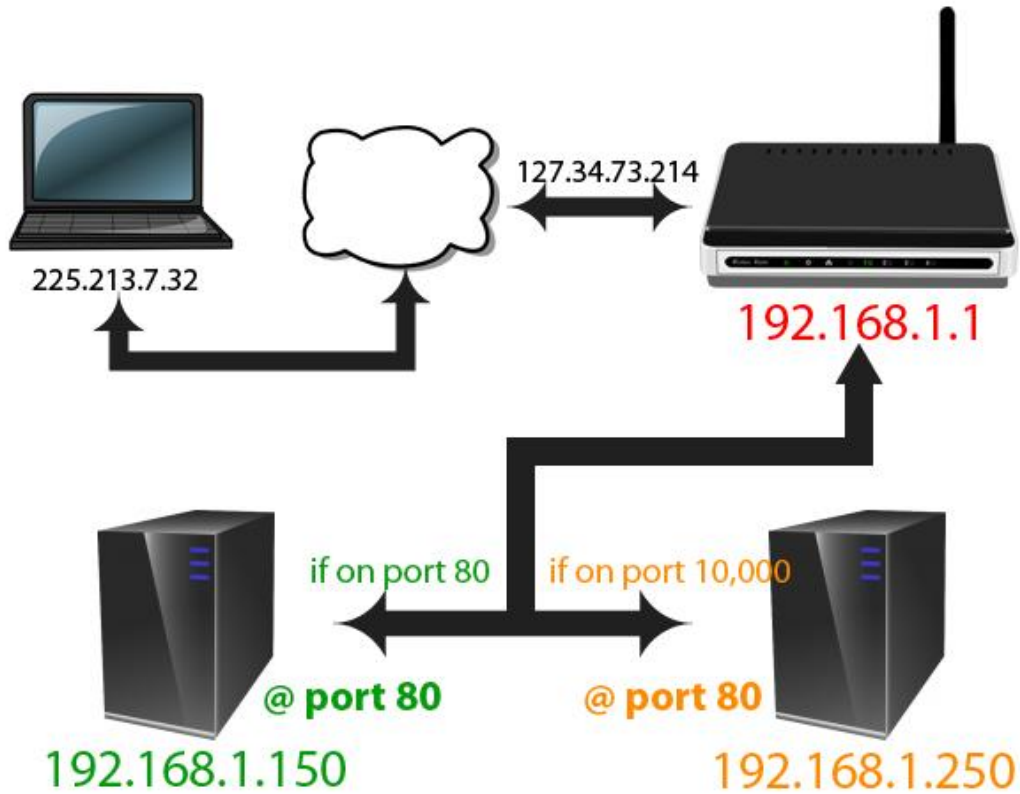


Hosting a Remote Web Service

- Host a web service on a remote server
- Needs to be Windows or Linux
- I tried a Windows Cloud VM
- Currently using an office based Windows Server via it's public IP address
- Quite a lot of setup involved.



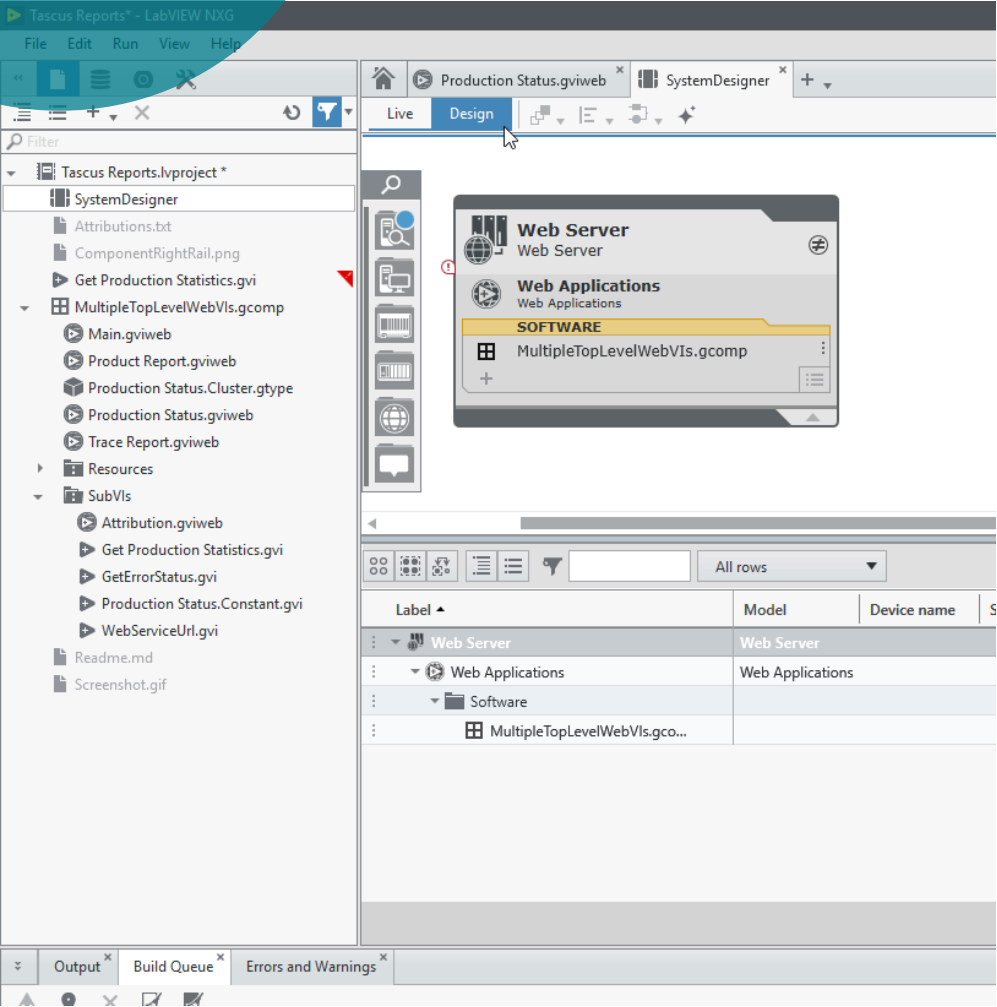
- Windows
- Linux
- Azure
- AWS



Steps for Hosting a Remote Web Service

1. Run web service from LabVIEW project on a Linux or Windows PC
2. Set a Static IP address for the server on router
3. Do port forwarding on the router to the server ip address on 8001 (dev) and 8080 (deploy)
4. Add firewall exception for the IP address & port
5. Get the public ip address
6. Create a ddns to update the public ip address
7. Browse to the http methods using the public ip address or the ddns name
8. Build the web service then access using port 8001/8080

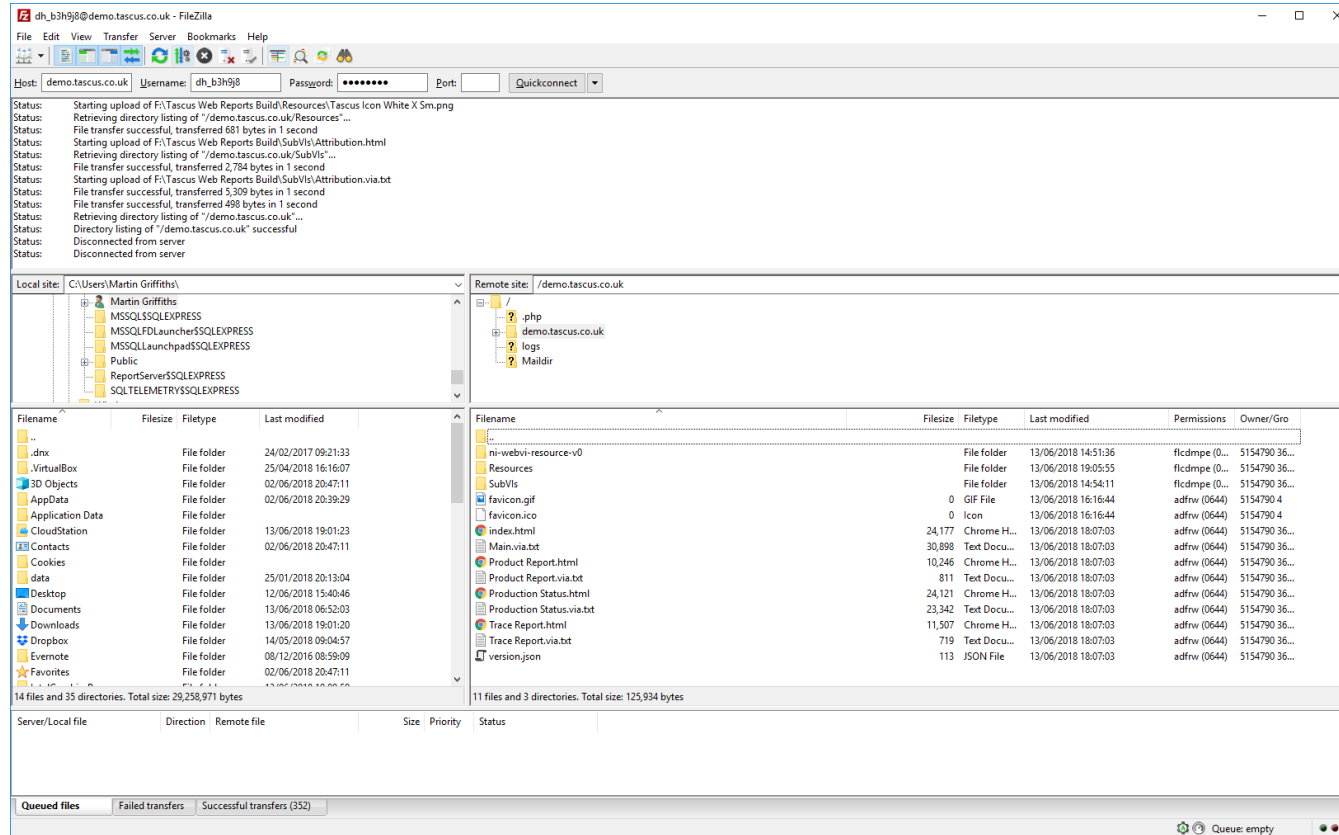
Build Web Vis



Name	Date modified	Type
ni-webvi-resource-v0	12/06/2018 18:23	File folder
Resources	12/06/2018 18:23	File folder
SubVIs	12/06/2018 18:23	File folder
index	12/06/2018 18:23	HTML File
Main.via	12/06/2018 18:23	Text Document
Product Report	12/06/2018 18:23	HTML File
Product Report.via	12/06/2018 18:23	Text Document
Production Status	12/06/2018 18:23	HTML File
Production Status.via	12/06/2018 18:23	Text Document
Trace Report	12/06/2018 18:23	HTML File
Trace Report.via	12/06/2018 18:23	Text Document
version.json	12/06/2018 18:23	JSON File

NXG will generate the html output files to host on a web server.

Deploy Web Vis



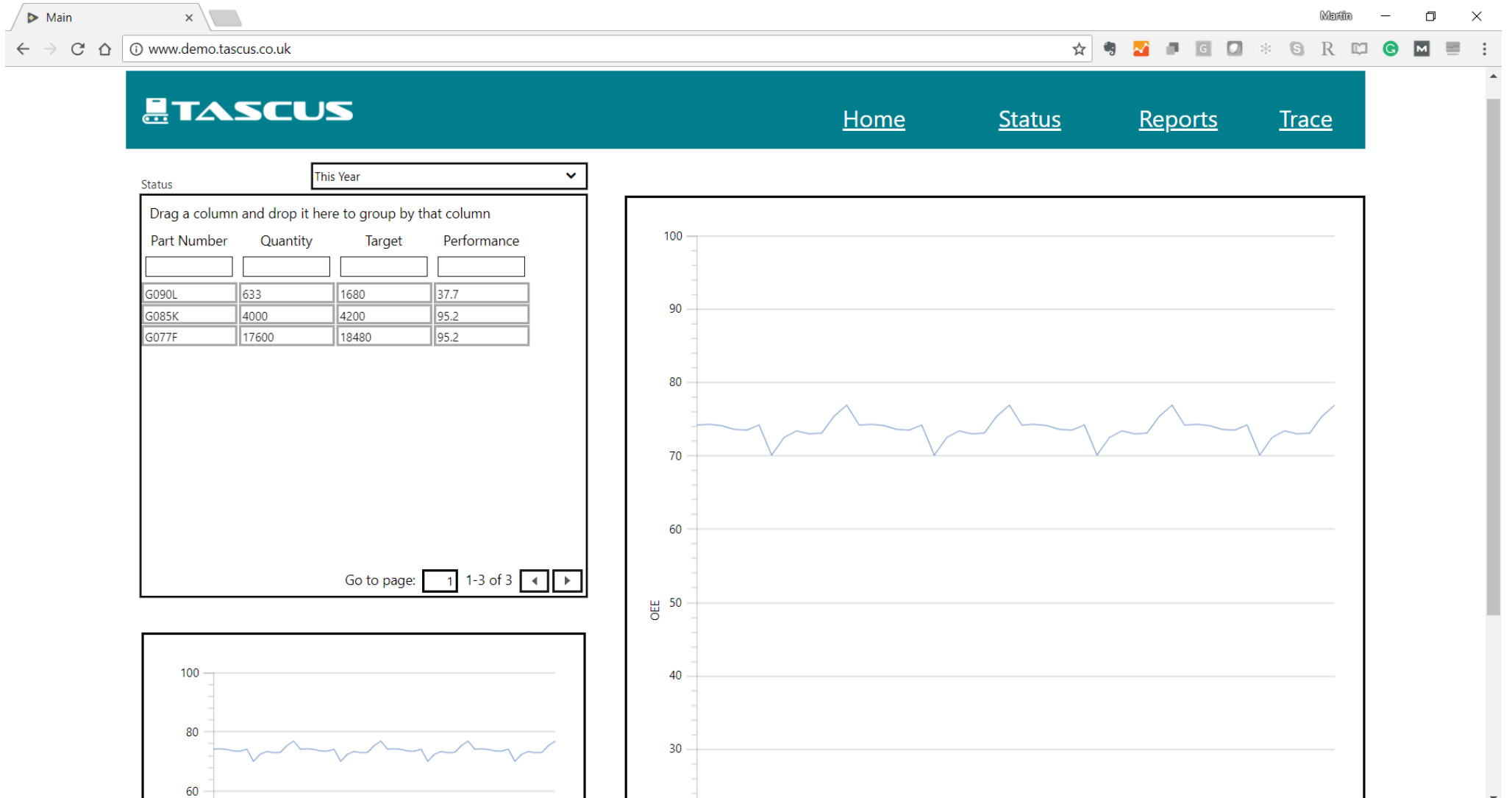
- Transfer Web Vi Build Directory
- Use a hosted web server\\\



- Web Host (Dream Host etc.)
- Azure / AWS
- Git Cloud



Deploy Web Vis



Summary

- *LabVIEW NXG and Web Vis are a powerful additional to the LabVIEW toolkit*
- *Start experimenting with them now*
- *See where the technology goes*

Links

- [How to Access Remote Panel Behind a Remote Server](#)
- [How to set static IP address on a router](#)
- [How to Forward Ports on a Router](#)
- [How to Set Up DDNS](#)

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Thanks for your
time!

View the presentation & code
snippets:

www.metisautomation.co.uk/labview-web-vis/

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Liverpool Oct 2018

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