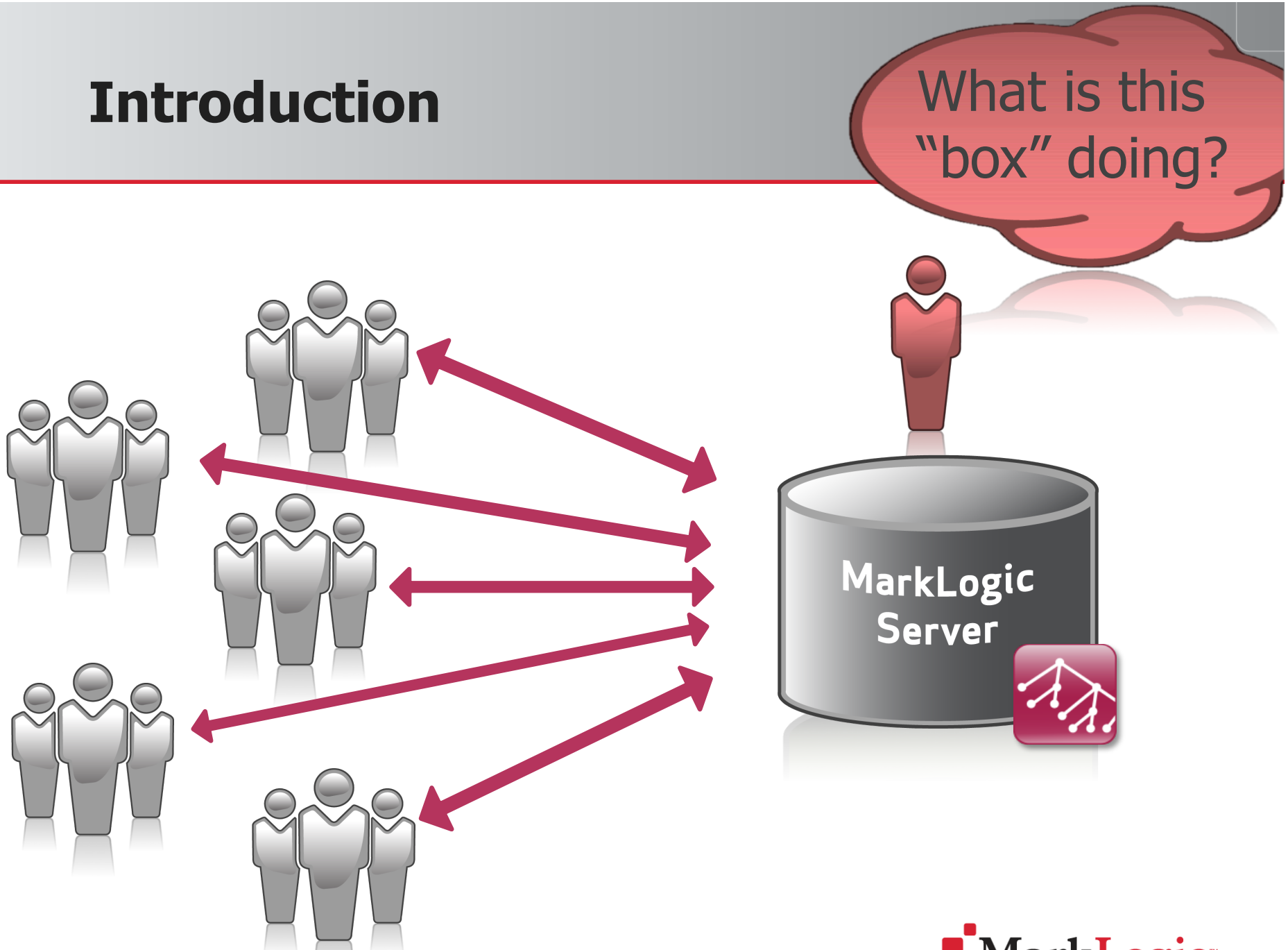
Attention: MarkLogic and Nagios terminology collapses

Setting up Nagios monitoring in 20 min*

Wolfgang Krause, Engineer, April 18th

* Including the time for explanation

Introduction



MarkLogic™

Disclaimer – Forward-looking Statements

All statements describing future releases and capabilities, estimated release dates, and content are plans only, and MarkLogic is under no obligation to develop, include or make available, commercially or otherwise, any specific feature or functionality in any MarkLogic product.

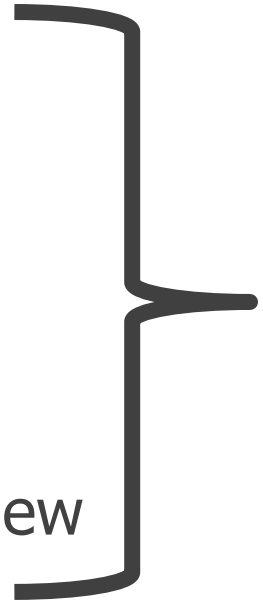
Information is provided for general understanding and informational purposes only, and is subject to change at the sole discretion of MarkLogic in response to changing customer requirements, market conditions, delivery schedules and other factors.

Information should not be distributed without written permission from MarkLogic.

MarkLogic™

Agenda

- Introduction
  - Monitoring Best Practices
  - Monitoring API
  - Nagios
- Integration into Nagios overview
- Demo



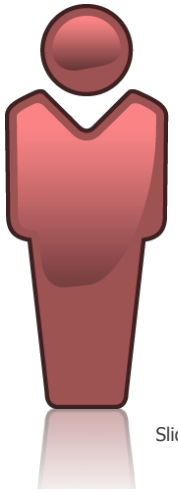
20min*

* we can chat about it after presentation

MarkLogic™

Introduction – Monitoring Best Practices

- MarkLogic specific metrics
  - Device Space
  - State
  - Loads
  - Total-requests
  - …

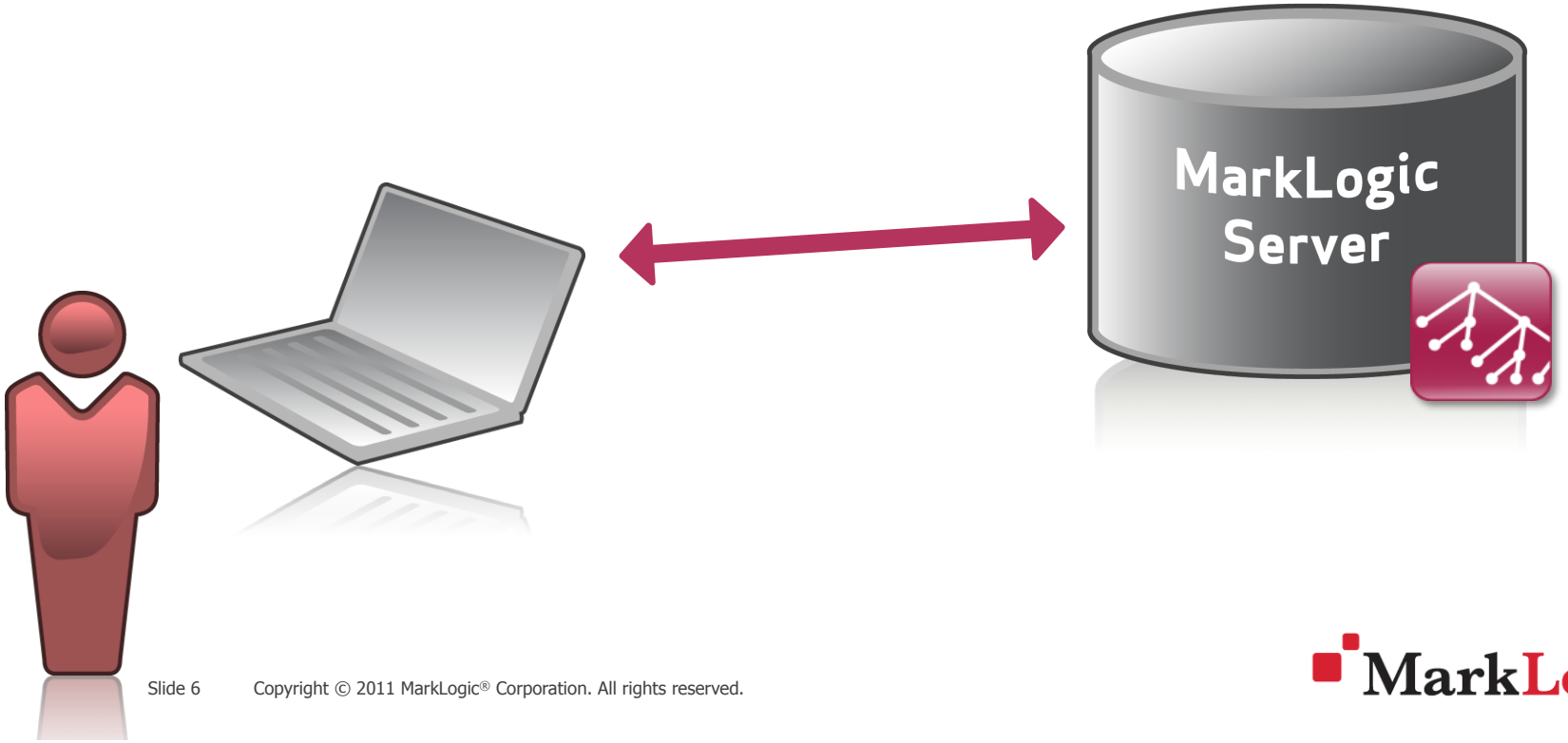


THURSDAY, APRIL 28				
7:00am - 7:00pm	Registration			
7:00am - 8:30am	Breakfast and Partner Showcase Open			
8:30am - 10:00am	**Conference Keynote: A Great Leader Isn't Enough: What Inventive Teams Do** **Professor Robert I. Sutton**, Stanford University			
10:00am - 10:30am	Break			
10:30am - 11:30am	Breakout Sessions			
Transitioning from Java to XQuery Rob Rudin, Boeing Mission Systems	**MarkLogic Server Under the Hood - How Indexing Works** **Jason Hunter**, MarkLogic	**Powering Healthcare Interoperability with MarkLogic** Jeffrey Cunningham and Tim Dunnington, Informatics Corporation of America	**Monitoring MarkLogic Clusters for Health and (DBA) Happiness, Today and Tomorrow** Colleen Whitney, MarkLogic	**Juxtaposing Traditional and Social Content** Kiran Karadi, Infosys

MarkLogic™

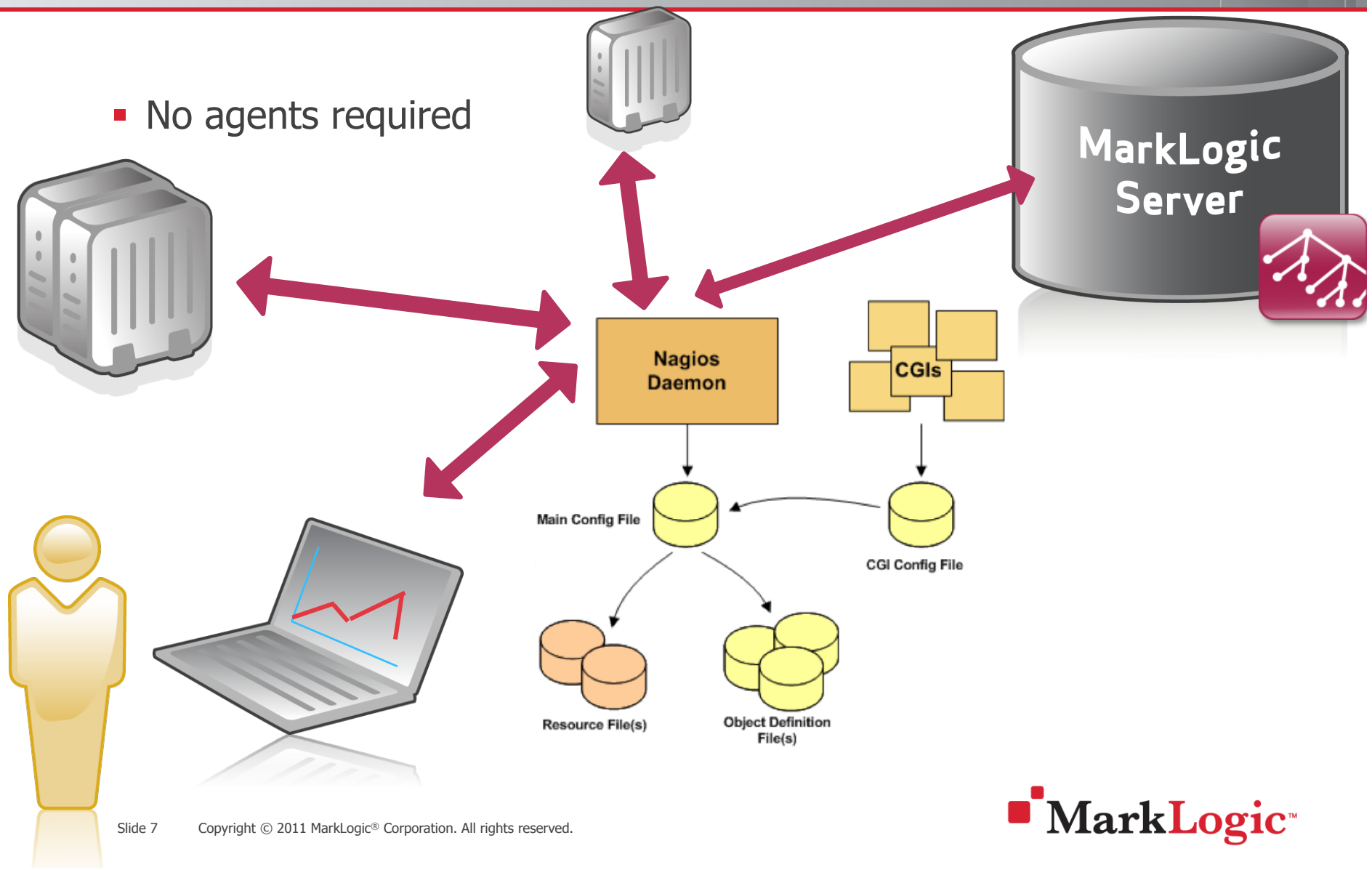
Introduction – Monitoring API

- Imagine a Rest API in MarkLogic > 4.2
  - localhost:8003/manage/v1
  - localhost:8003/manage/v1/databases/Documents/status
  - localhost:8003/manage/v1/forests?host-id=myhost



Integration into Nagios core

- No agents required



MarkLogic™

Introduction – Nagios

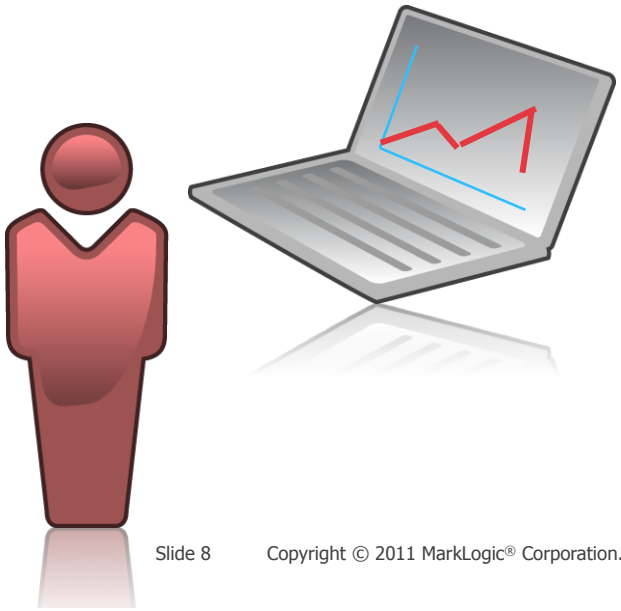
Red, yellow, green

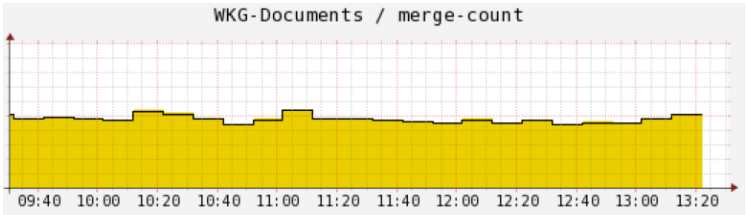
-App-Services	backup-count	OK	04-01-2011 13:23:46	1d 1h 35m 27s	1/1000	OK - App-Services-backup-count=0
	compressed-tree-cache-miss-rate	OK	04-01-2011 13:28:46	1d 1h 35m 27s	1/1000	OK - compressed-tree-cache-miss-rate=0 [critical(@10:399)][warning(@400:1000)]
	documents	OK	04-01-2011 12:53:46	1d 1h 35m 27s	1/1000	OK - App-Services-documents=22
	list-cache-miss-rate	OK	04-01-2011 13:28:46	1d 1h 35m 27s	1/1000	OK - App-Services-list-cache-miss-rate=0
	load-detail	OK	04-01-2011 13:28:46	1d 1h 35m 27s	1/1000	OK - App-Services-total-query-read-load=0
	merge-count	OK	04-01-2011 13:23:46	1d 1h 35m 27s	1/1000	OK - App-Services-merge-count=0
	on-disk-size	OK	04-01-2011 12:53:46	1d 1h 35m 27s	1/1000	OK - App-Services-on-disk-size=0MB
	reindex-count	OK	04-01-2011 13:28:46	1d 1h 35m 27s	1/1000	OK - App-Services-reindex-count=0
	restore-count	OK	04-01-2011 13:28:46	1d 1h 35m 27s	1/1000	OK - App-Services-restore-count=0
	state	OK	04-01-2011 13:28:46	1d 1h 35m 27s	1/1000	OK - state=1 [critical(@0:0)]
	total-load	OK	04-01-2011 13:28:46	1d 1h 35m 27s	1/1000	OK - App-Services-total-load=0

Nagios®

General
- Home
- Documentation

Current Status
- Tactical Overview
- Map
- Hosts
- Services
- Host Groups
  - Summary
  - Grid
- Service Groups
  - Summary
  - Grid
- Problems
  - Services (Unhandled)
  - Hosts (Unhandled)
  - Network Outages

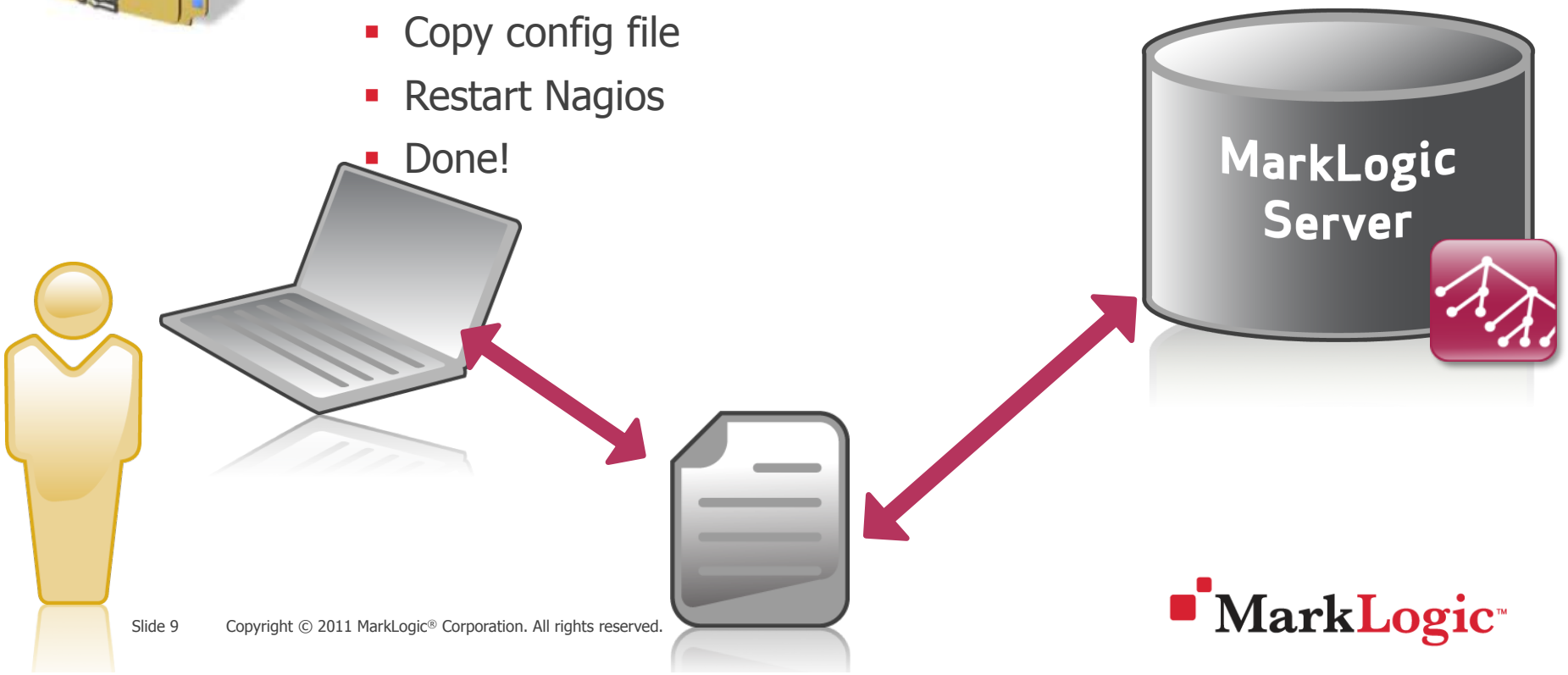




MarkLogic™

Integration into Nagios overview (custom)

- Nagios-Package:
  - You read the Readme & look at the documentation
  - Copy MarkLogic Plugin
  - Generate your own Nagios config file based on your installation
  - Copy config file
  - Restart Nagios
  - Done!



MarkLogic™

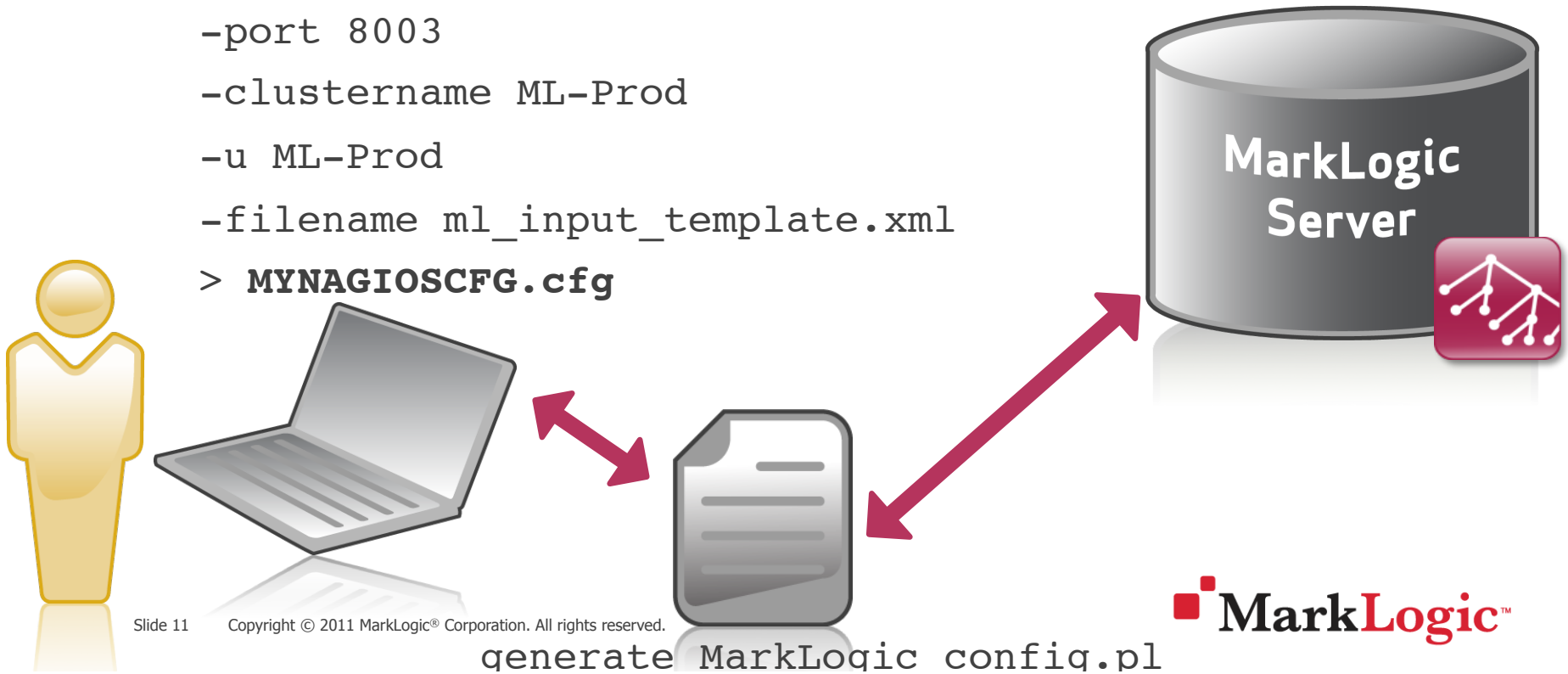
Demo – ready for demo?

How are we with time?

MarkLogic™

Demo - Step 1 the generation

```
perl generate_MarkLogic_config.pl
    -a admin:admin
    -host e-node
    -port 8003
    -clustername ML-Prod
    -u ML-Prod
    -filename ml_input_template.xml
    > MYNAGIOSCFG.cfg
```



Demo - Step 1 the generation

- Retrieves:
  - Name of Databases, Hosts, AppServers
    - (everything which is used in a XML input file)
- Generates everything you "need"
  - Grouping
  - Resources
  - Services


```
generate_MarkLogic_config.pl
```

Demo - Step 2 adding it

- Add
  - `cfg_file=/usr/local/nagios/etc/objects/ml_generic.cfg`
  - `cfg_file=/usr/local/nagios/etc/objects/MYNAGIOSCFG.cfg*`
- Into
  - `/usr/local/nagios/etc/nagios.cfg`

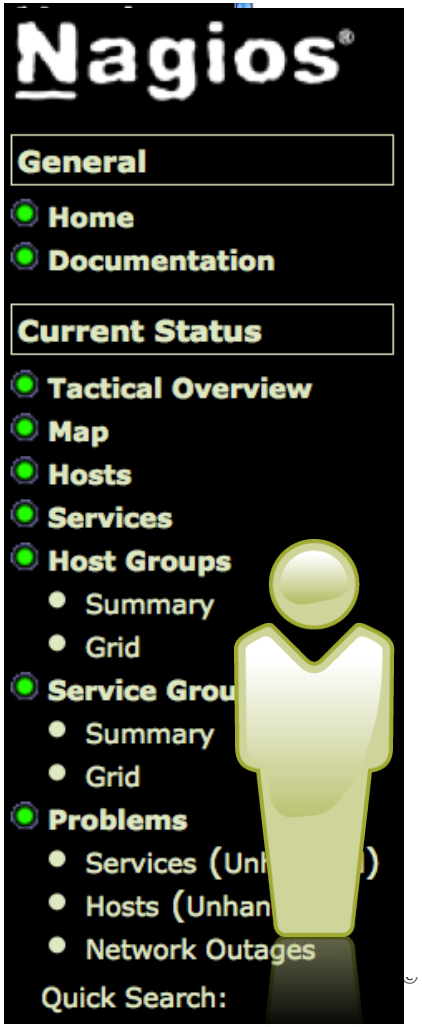
MarkLogic™

Demo – Step 3 Test, Restart, Test

- Test
  - `/usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg`
- Restart
  - `service nagios restart`
- Test
  - Play with it ☺

MarkLogic™

Demo – Click through the UI



DEV-Marklogic (ML-DEV-AppServerMetrics)

Host	Status	Services	Actions
TaskServer	UP	4 OK 1 CRITICAL	

DEV-Marklogic (ML-DEV-Cluster)

Host	Status	Services	Actions
ML-DEV-Cluster	UP	2 OK	

DEV-Marklogic (ML-DEV-DatabaseMetrics)

Host	Status	Services	Actions
Documents	UP	11 OK	

DEV-Marklogic (ML-DEV-HOSTs)

Host	Status	Services	Actions
wlan31-13-237.marklogic.com	UP	4 OK 1 UNKNOWN 1 CRITICAL	

Prod-Marklogic (ML-Prod-AppServerMetrics)

Host	Status	Services	Actions
ML-Prod-App-Services	UP	5 OK 1 UNKNOWN	
ML-Prod-Manage	UP	6 OK	
Prod-ONLINE-AS	UP	5 OK 1 UNKNOWN	
Prod-TaskServer	UP	5 OK 1 UNKNOWN	
Prod-medline	UP	5 OK 1 UNKNOWN	
Prod-medlineXDBC	UP	5 OK 1 UNKNOWN	

Prod-Marklogic (ML-Prod-Cluster)

Host	Status	Services	Actions
ML-Prod-Cluster	UP	2 OK	

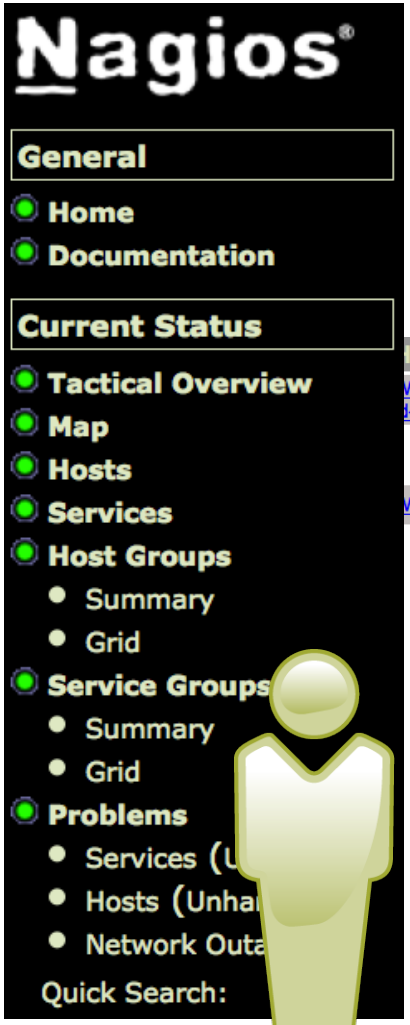
Prod-Marklogic (ML-Prod-DatabaseMetrics)

Host	Status	Services	Actions
Prod-Documents	UP	9 OK 2 WARNING	
Prod-Medline	UP	8 OK 1 WARNING 2 CRITICAL	
Prod-MedlineDB	UP	9 OK 2 WARNING	
Prod-ONLINE	UP	8 OK 2 WARNING 1 CRITICAL	

Prod-Marklogic (ML-Prod-Hosts)

Host	Status	Services	Actions
rh55-intel64-43-test-6	UP	4 OK 1 UNKNOWN 1 CRITICAL	
rh55-intel64-43-test-7	UP	4 OK 1 UNKNOWN 1 CRITICAL	
rh55-intel64-43-test-8	UP	4 OK 1 UNKNOWN 1 CRITICAL	

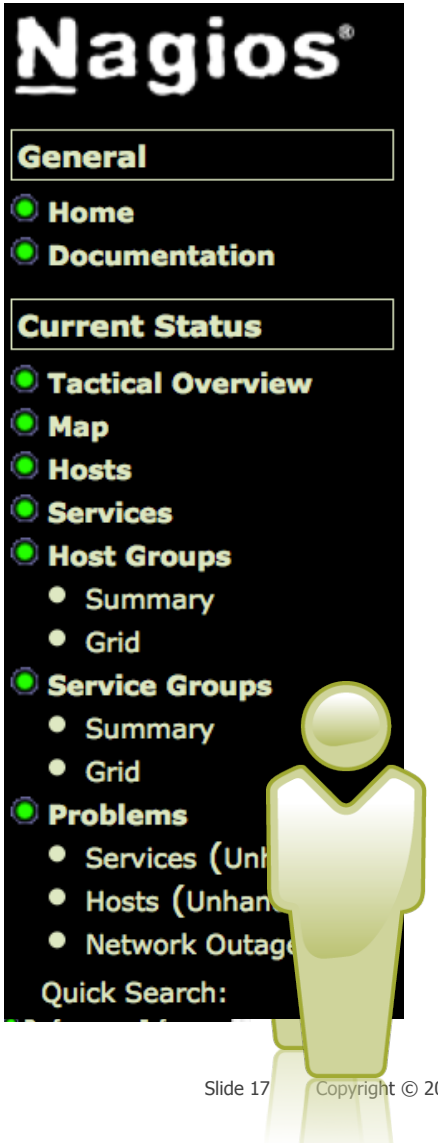
Demo – Click through the UI



Host	Service	Status	Last Check	Duration	Attempt	Status Information
VKG-Admin-group-d-Default	query-count	OK	04-04-2011 15:57:57	4d 4h 7m 29s	1/1000	OK - Admin-query-count=0
	total-requests	OK	04-04-2011 15:58:20	1d 3h 36m 29s	1/1000	OK - total-requests=0 [critical(10)][warning(@1:10)]
VKG-App-Services	backup-count	OK	04-04-2011 15:50:43	4d 4h 4m 41s	1/1000	OK - App-Services-backup-count=0
	compressed-tree-cache-miss-rate	OK	04-04-2011 15:58:06	4d 4h 4m 41s	1/1000	OK - compressed-tree-cache-miss-rate=0 [critical(@10:399)][warning(@400:1000)]
	documents	OK	04-04-2011 15:35:29	4d 4h 4m 41s	1/1000	OK - App-Services-documents=3400
	list-cache-miss-rate	OK	04-04-2011 15:58:05	4d 4h 4m 41s	1/1000	OK - App-Services-list-cache-miss-rate=0
	load-detail	OK	04-04-2011 15:57:27	4d 4h 4m 41s	1/1000	OK - App-Services-total-query-read-load=0
	merge-count	OK	04-04-2011 15:50:50	4d 4h 4m 41s	1/1000	OK - App-Services-merge-count=0
	on-disk-size	OK	04-04-2011 15:33:13	4d 4h 4m 41s	1/1000	OK - App-Services-on-disk-size=60MB
	reindex-count	OK	04-04-2011 15:57:36	4d 4h 4m 41s	1/1000	OK - App-Services-reindex-count=0
	restore-count	OK	04-04-2011 15:58:11	4d 4h 4m 41s	1/1000	OK - App-Services-restore-count=0
	state	OK	04-04-2011 15:57:34	4d 4h 4m 41s	1/1000	OK - state=1 [critical(@0:0)]
	total-load	OK	04-04-2011 15:57:57	4d 4h 4m 41s	1/1000	OK - App-Services-total-load=0

MarkLogic™

Demo – Click through the UI



ML-Development (ML-Development)

Host	Status	Services	Actions
Documents	UP	11 OK	
ML-DEV-Cluster	UP	2 OK	
TaskServer	UP	4 OK 1 CRITICAL	
wlan31-13-237.marklogic.com	UP	4 OK 1 UNKNOWN 1 CRITICAL	

ML-Production (ML-Production)

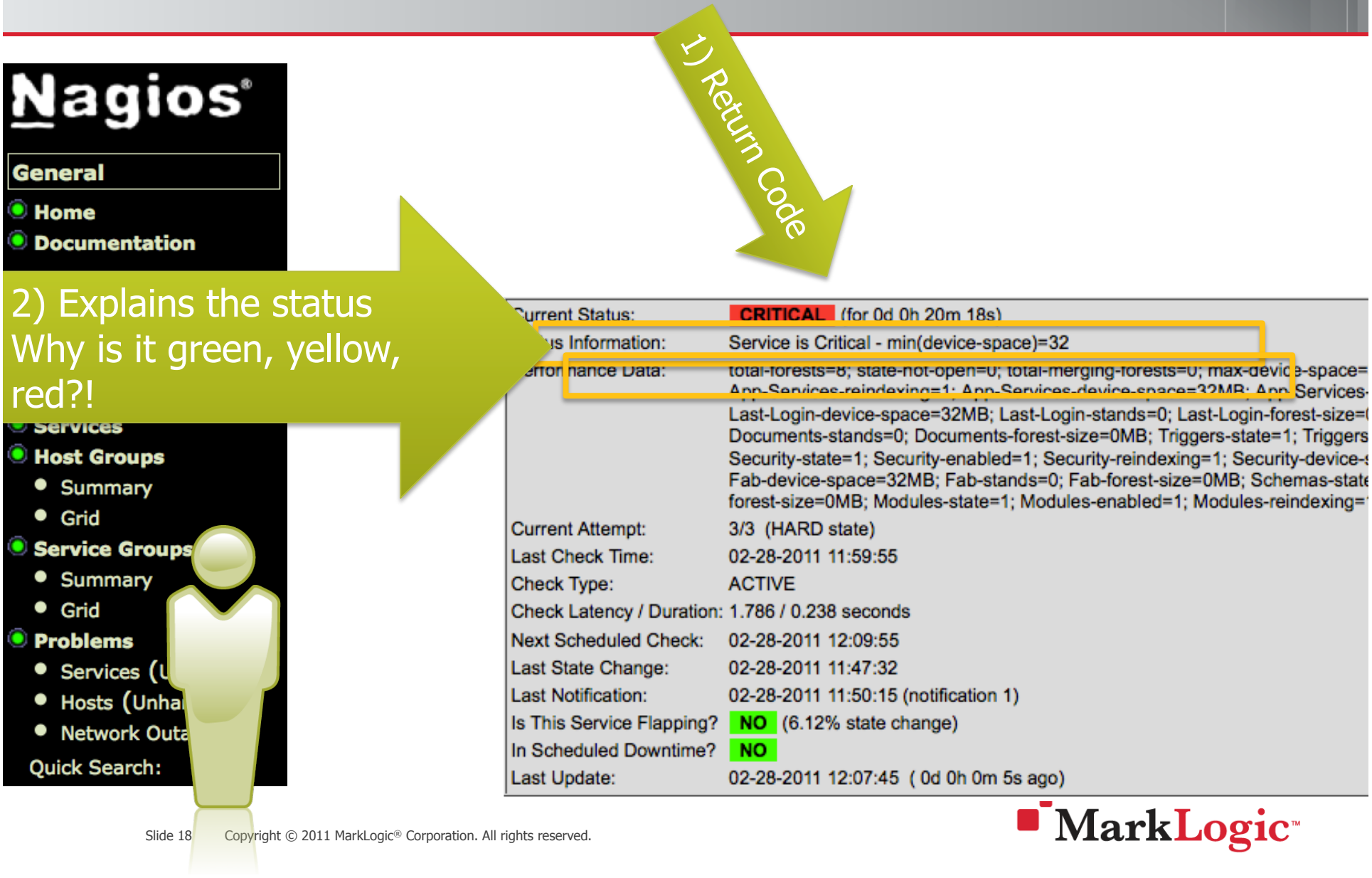
Host	Status	Services	Actions
ML-Prod-App-Services	UP	5 OK 1 UNKNOWN	
ML-Prod-Cluster	UP	2 OK	
ML-Prod-Manage	UP	6 OK	
Prod-Documents	UP	9 OK 2 WARNING	
Prod-Medline	UP	8 OK 1 WARNING 2 CRITICAL	
Prod-MedlineDB	UP	9 OK 2 WARNING	
Prod-ONLINE	UP	9 OK 1 WARNING 1 CRITICAL	
Prod-ONLINE-AS	UP	6 OK	
Prod-TaskServer	UP	5 OK 1 UNKNOWN	
Prod-medline	UP	5 OK 1 UNKNOWN	
Prod-medlineXDBC	UP	5 OK 1 UNKNOWN	
rh55-intel64-43-test-6	UP	4 OK 1 UNKNOWN 1 CRITICAL	
rh55-intel64-43-test-7	UP	4 OK 1 UNKNOWN 1 CRITICAL	
rh55-intel64-43-test-8	UP	4 OK 1 UNKNOWN 1 CRITICAL	

Linux Servers (linux-servers)

Host	Status	Services	Actions
localhost	UP	8 OK	

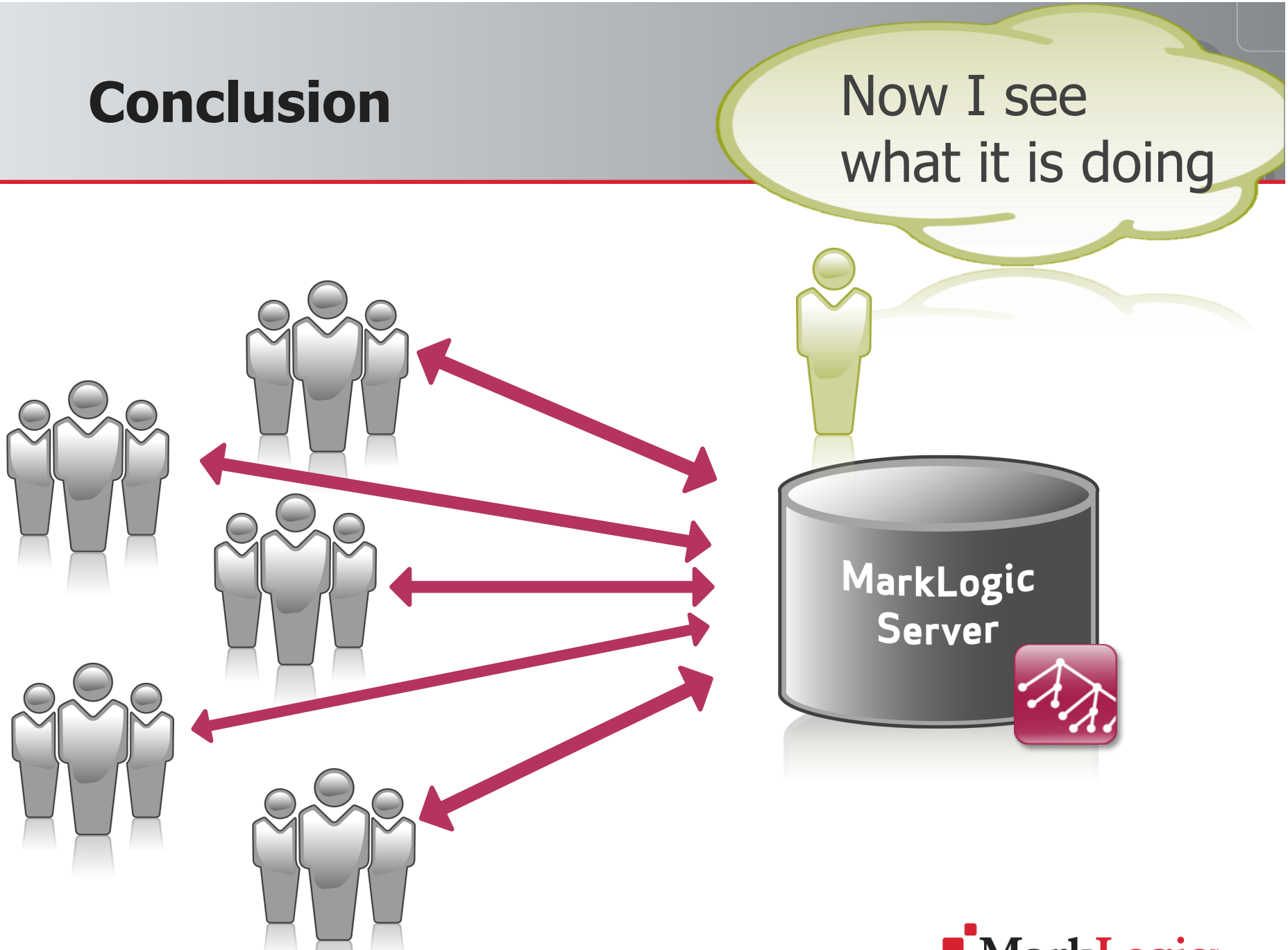
MarkLogic™

Demo – Click through the UI



MarkLogic™

Conclusion



MarkLogic™

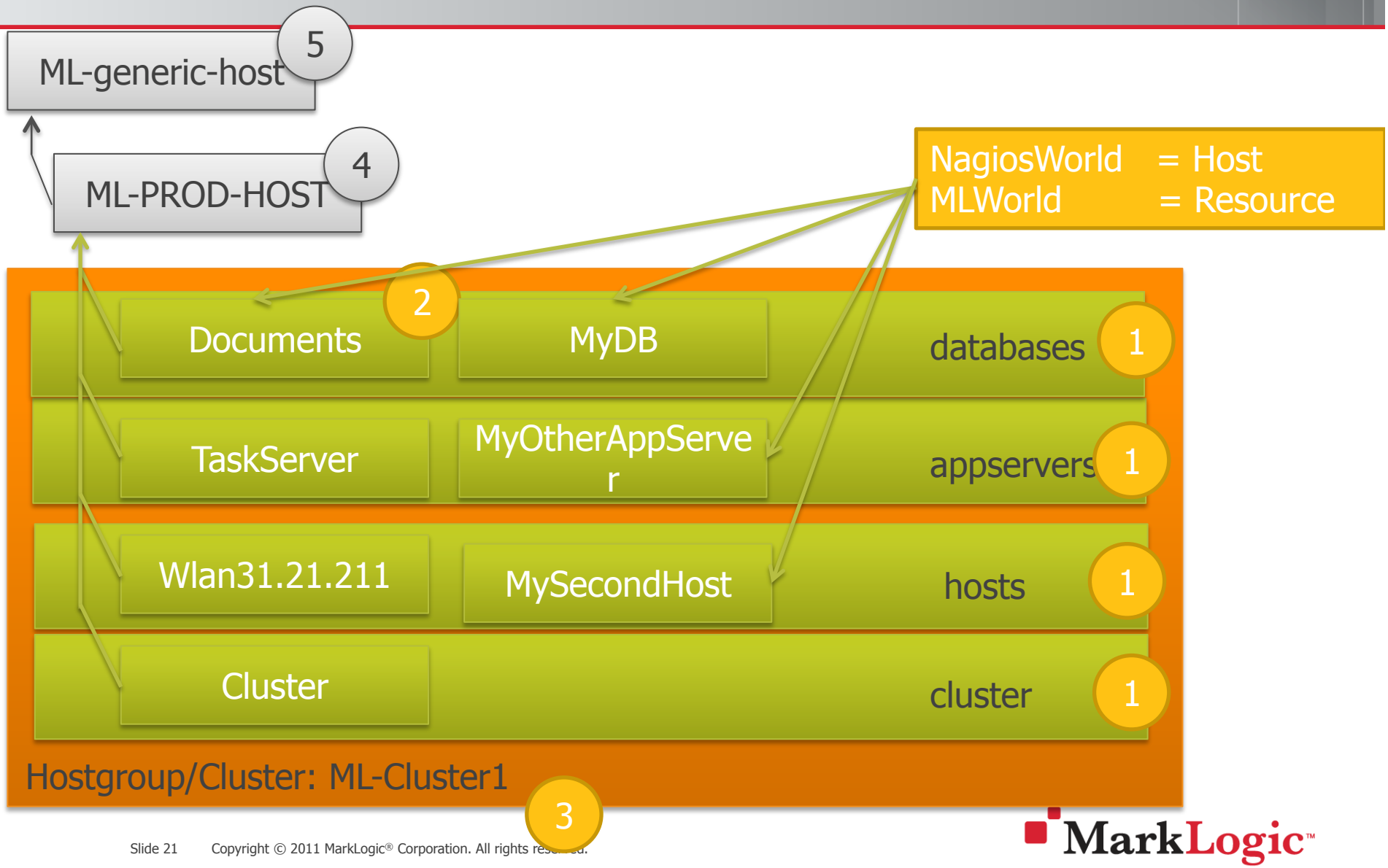
Questions/Feedback

www.marklogic.com

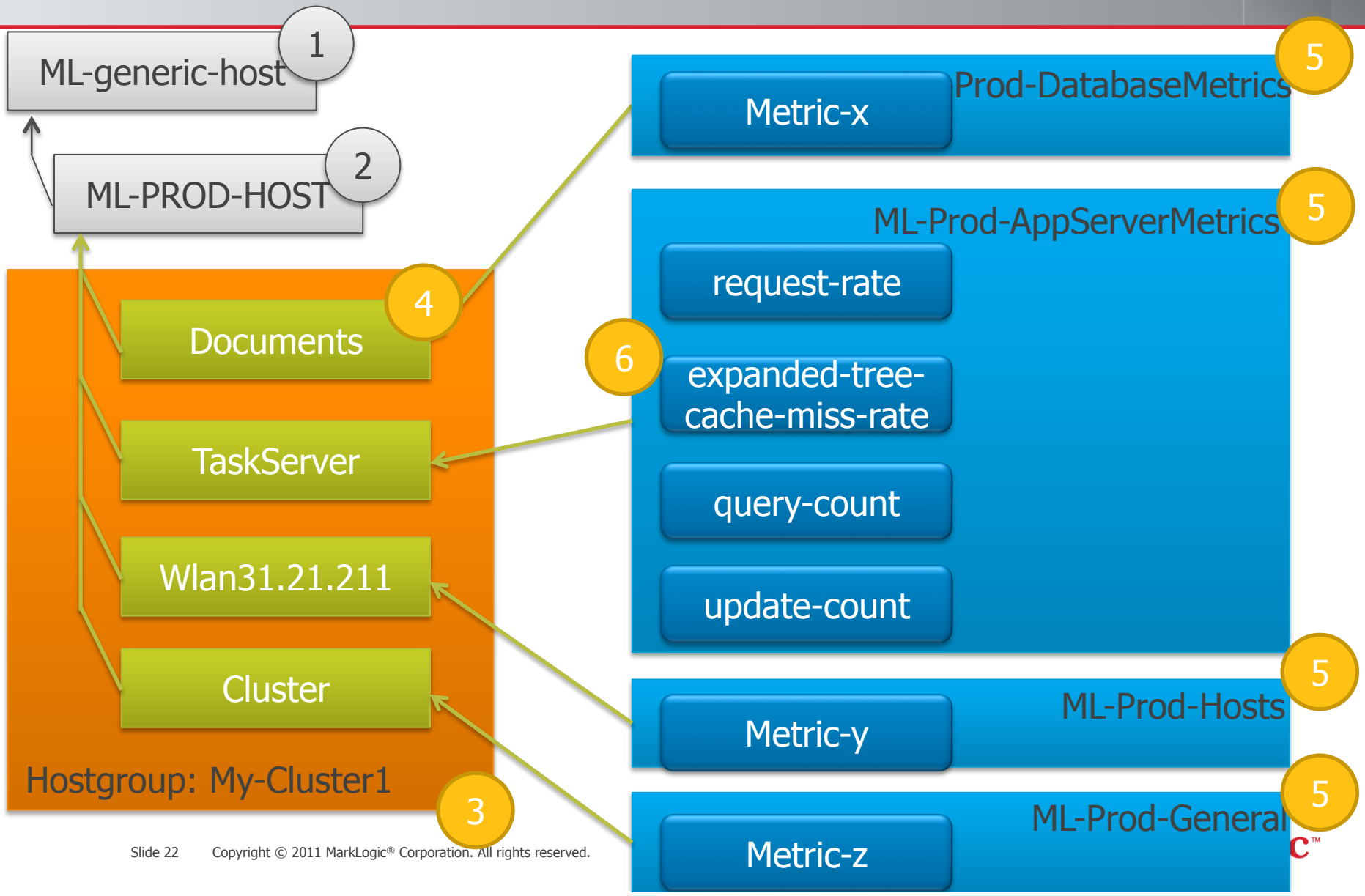
wolfgang.krause@marklogic.com

MarkLogic™

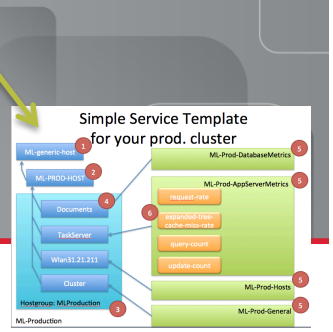
Which resources do you want to monitor?



Simple Service Template



A ML config file for Nagios (1)



- 1) Credentials for
  e-node
- 2) HostGroup = Cluster
- 3) ServiceGroups for
  - AppServer
  - Databases
  - Hosts

1

```
define host{
    use ML-generic-host,host-pnp
        name    ML-Dev-HOST
        _MLPORT 8003 ;
        _MLUSERPW wkrause:mysecretpw;
        _MLIP wlan31-13-237.marklogic.com;
        register 0;
```

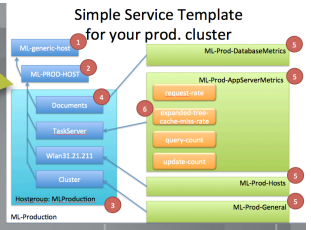
2

```
}
 define hostgroup{
        hostgroup_name ML-Development
        alias   ML-Development
        }
define servicegroup{
        servicegroup_name       ML-DEV-HOSTs
        alias  DEV-Marklogic
```

3

```
}

define servicegroup{
    servicegroup_name   ML-DEV-AppServerMetrics
    alias DEV-Marklogic
}
define servicegroup{
        servicegroup_name       ML-DEV-DatabaseMetrics
```

A ML config file for Nagios (2)



- 1) Define resources/hosts for all:
  - Databases
  - AppServers
  - Hosts
  - (Cluster) for idiots lights like
    - How many db are there
    - ☺

```
; AppServer
; just a task server
define host{
    use                     ML-Dev-HOST
    host_name               TaskServer
    _MLALIAS                TaskServer
    address                 MLhost  ///
    hostgroups          ML-Development
        }
```

1

2

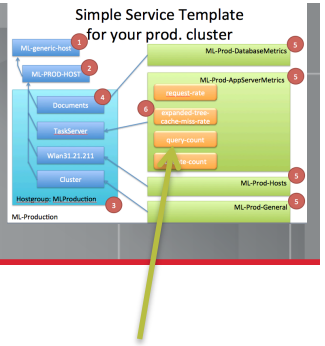
```
; Hosts
define host{
        use                     ML-Dev-HOST
        host_name               wlan31-13-237.marklogic.c
        _MLALIAS                wlan31-13-237.marklogic.c
        address                 wlan31-13-237.marklogic.c
        hostgroups              ML-Development
        }
```

1

2

MarkLogic™

A ML config file for Nagios (3)

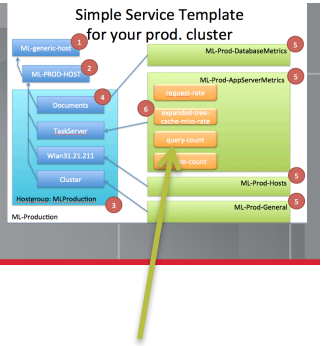


- A Nagios Service running against port 8003
  - Executes check_marklogic.pl
    - Construct an URL
  - Runs against a e-node
  - Can be used for multiple resources of the same type
  - Belongs to a service group
  - ……

```
define service{

        use ML-generic-service

        host_name       ML-DEV-Cluster

        service_description     DEV-NumberOfAppServers

    display_name    NumberOfAppServers

        servicegroups   ML-DEV-Cluster
        check_command   check_marklogic.pl!  -a $_HOSTMLUSERPW$  -port $_HOSTMLPORT$  --host $_HOSTMLIP$ -path /manage/servers -key server-uri -aggr cnt  -c @0:0

        }
```

check_marklogic.pl –a admin:admin –port 8003 –host wlan… –path /manage/servers –key server-uri –c 0:0

Macro Explanation




```
define service{

        use             ML-generic-service

        host_name       Prod-Documents,Prod-Fab,Prod-Medline

        service_description merge-count

        servicegroups   ML-Prod-DatabaseMetrics
        check_command   check_marklogic.pl!  -a $_HOSTMLUSERPW$  -port $_HOSTMLPORT$
        --host $_HOSTMLIP$ -path /manage/databases/$_HOSTMLALIAS$/status?property=$SERVICEDESC$ -key $SERVICEDESC$ -w @1:10 -c @11:

        }
```

A

B

C

D

E

F

F

G(eneric) host

```
define host{
    use ML-generic-host,host-pnp
        name    ML-PROD-HOST
        _MLPORT 8003 ;
        _MLUSERPW admin:admin;
        _MLIP rh55-intel64-43-test-7;
        register 0;

    }
```


MarkLogic™