



Connect. Communicate. Collaborate

E2ECU and PerfSONAR

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Monitoring Overview 1



Connect. Communicate. Collaborate

- Each domain installs own/3rd party software to capture status from network hardware
- This status info sent to PerfSONAR MP or MA
- Measurement Point (MP)
 - Lightweight web service
 - Collecting network status info [UP / DOWN only]
 - XML file
- Measurement Archive (MA)
 - Mainly historical archive for network status info
 - Also same functions as MP
 - SQL Database
- MP / MA checks info and reformats into XML for collection by E2EMon

PerfSONAR LHC Rollout



Connect. Communicate. Collaborate

NREN	Last update	UP/DOWN info	perfSONAR installation	Expected RFS
ASCC	Complex, IP based setup. Analysing move to MPLS			
BNL	Directly connected to Esnet			
CERN	06-Oct-06	available	done	ready
DFN	12-Jan-06	complete	done	ready
Esnet	19-Dec-06	complete	done	ready
Fmlab	19-Dec-06	complete	done	ready
GARR	21-Sep-06	complete	done	ready
GEANT2	21-Sep-06	complete	done	ready
NORDunet	22-Sep-06	?	ongoing	?
RENATER	05-Mar-07	complete	done	ready
REDIris	17-Apr-07	work ongoing	work ongoing	May-07
SARA/SURFnet	17-Apr-07	complete	done	ready
SWITCH	21-Sep-06	complete	done	ready
TRIUMF/Canarie	28-Feb-07	available	done	?
USLHCNET	17-Apr-07	ongoing	ongoing	ready
UKERNA	13-Feb-07	partly done	ongoing	?

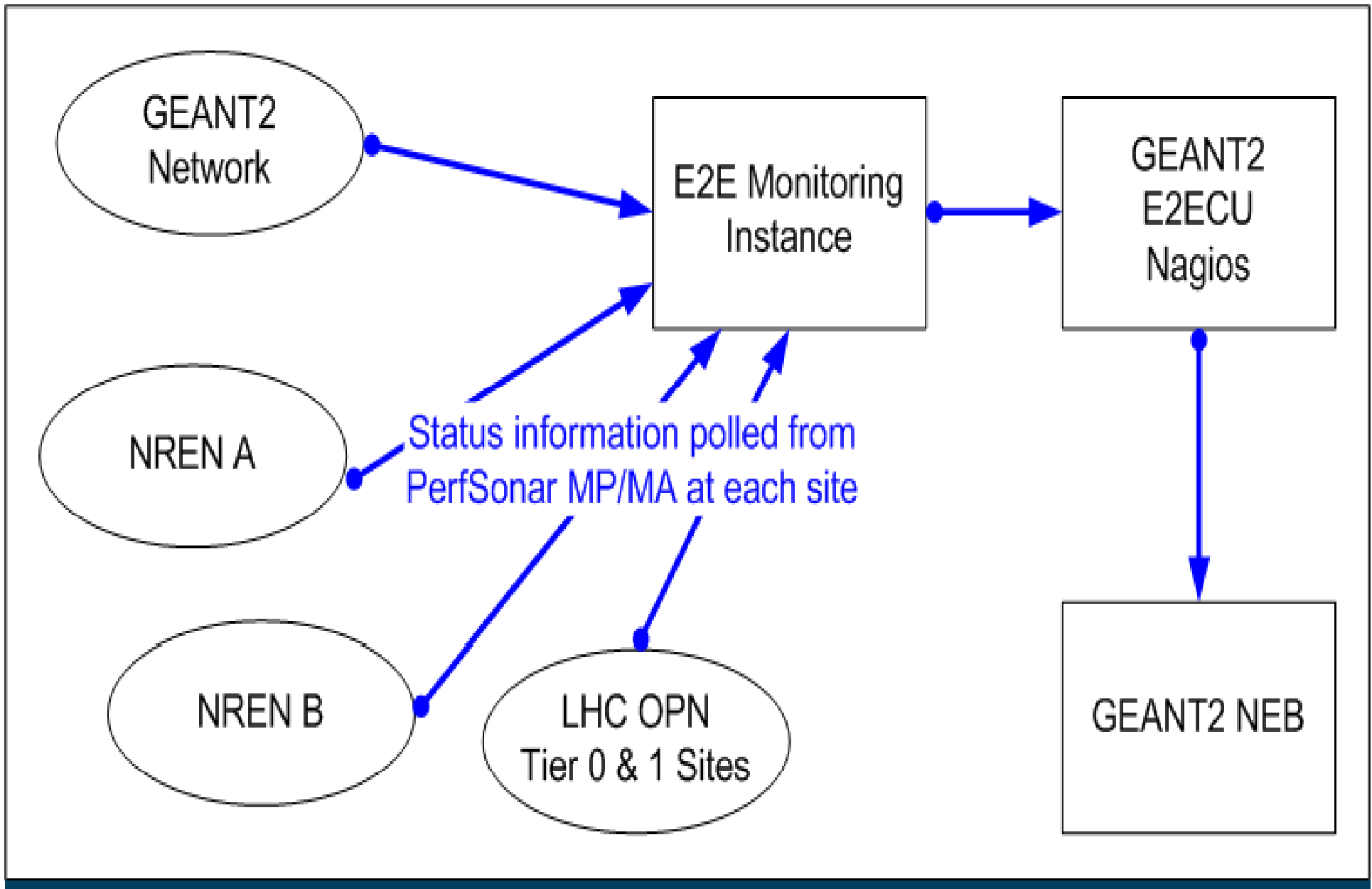


Monitoring Overview 2



Connect. Communicate. Collaborate

- E2ECU Monitoring Instance queries PerfSONAR MPs & MAs
- E2EMon sends SNMP traps to Nagios plug-ins
- Nagios sends status info to “dashboard” = Network Event Broker (NEB)
- E2ECU watches NEB for faults
- E2ECU opens ticket & contacts NRENs & ENOC
- NREN can also send email / telephone E2ECU with fault
- Right now only LHC OPN & IGTMD (IN2P3-Fermilab), later DEISA
- DANTE has ongoing co-op with E2EMon developers





Network Event Broker (dashboard in Paris)

Nagios

E2E Monitoring Instance (Vienna) – polls each MP for data

GEANT2
MP

SWITCH
MP

Renater
MP

Surfnet
MP

ESNET
MP

Fermi
MP

IN2P3
MP

GARR
MP

DFN
MP

CERN
MP

USLHCNET
MP

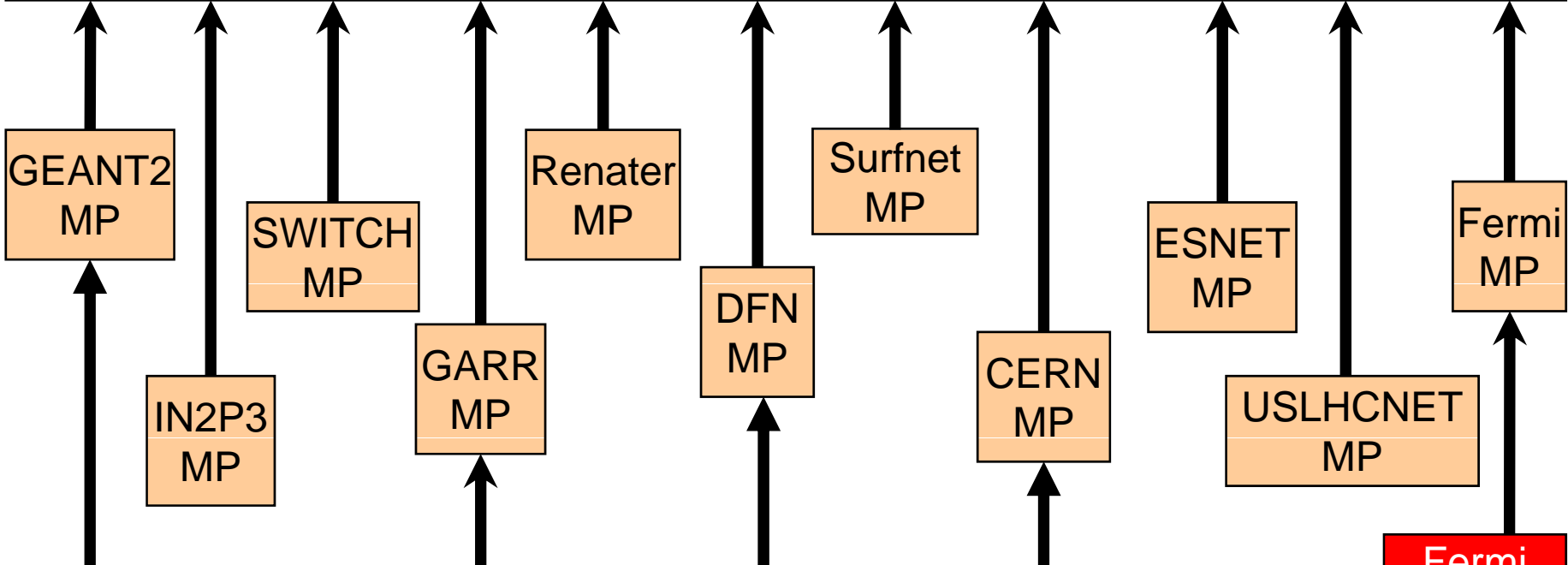
GEANT2
Alcatel NMS
(sends SNMP traps)

GARR
kit / NMS
(is polled)

DFN NIS
(sends SNMP traps)

CERN NSMS
(sends SNMP traps)

Fermi
kit / NMS
(is polled)



Future Plans / Questions



Connect. Communicate. Collaborate

- E2ECU is contacting NRENs / domains regarding :-
 - Measurement Points availability
 - Consistency in naming of MonitoredLinks / Demarcs
- Further Implementation of MPs at Tier1 centres
- 24x7 E2ECU – US collaboration
- Improvement of data accuracy from all domains
- Should E2EMS be considered public info?
- Matthias & Mark are working on software development
- Presentation from E2ECU
- Any questions?
- See <http://wiki.perfsonar.net/jra1-wiki/>